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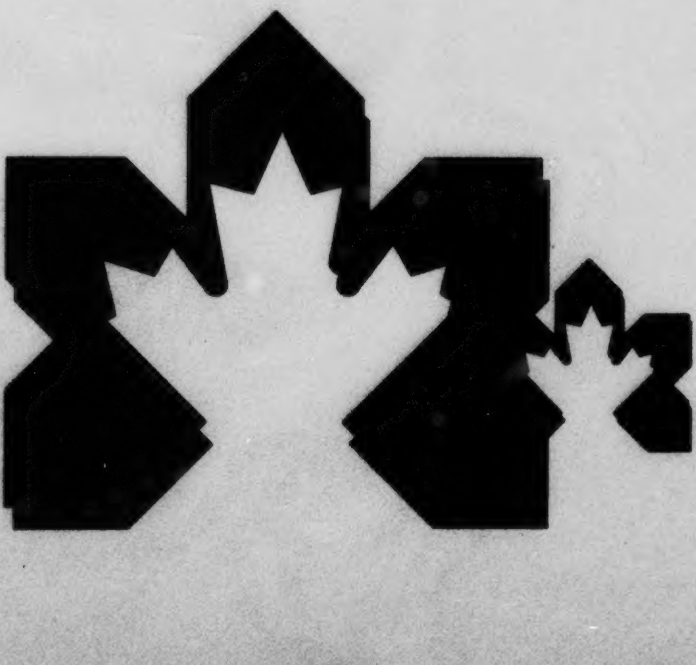

Final Report for the 1986 National Housing Study

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Submitted to:

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TABLE OF CONTENTS

Page

1.0 INTRODUCTION 1

1.1 Objective of the National Housing Study 1
1.2 Organisation of the Report 2

2.0 OVERVIEW OF THE METHODOLOGY 3

2.1 Research Design 3
2.2 Preliminary Contacts 4
2.3 Logistics of the Mail Survey 5

3.0 SURVEY ADMINISTRATION 9

3.1 Telephone Contacts with Homeowners and Tenants 9
3.1.1 Sampling 9
3.1.2 Placing the Mail Survey Instruments ... 10
3.2 Landlord Identification 12
3.3 Mailing Procedures 14
3.4 Monitoring and Follow-Up Procedures 16
3.5 Non-Response Survey 17

4.0 DATA BASE MANAGEMENT 21

4.1 Coding and Data Capture 21
4.2 Data File Creation and Verification Procedures 22
4.3 Svstem File Creation Procedures 22

5.0 ANALYSIS OF OVERALL RESPONSE 25

5.1 Overall Response Rates to the Telephone Survey 25
5.2 Overall Response Rates to Mail Survey 27
5.2.1 Response Rates Based on Mail Survey ... 27
5.2.2 Recalculation of Response Rates Based on Non-Response Survey Results 28
5.3 Survey Response Rates by Mail-Out Wave 31
5.4 Landlord and Homeowner Inspection Request Notices 33

6.0 SAMPLE CHARACTERISTICS 35

6.1 Overview of the Sample Characteristics 35
6.2 Comparisons Between Respondents and Non-Respondents 38
6.3 File Weighting 41

TABLE OF CONTENTS CONTINUED

Page

7.0 ANALYSIS OF PARTIAL RESPONSE 43

7.1 Homeowner Questionnaire 44
7.2 Tenant Questionnaire 46
7.3 Landlord Questionnaire 48

8.0 RELIABILITY 51

8.1 Summary of Procedures for Reliability Assessment 51
8.2 Homeowner Data 54
8.3 Tenants 60
8.4 Landlords 64

9.0 VALIDITY 69

9.1 Summary of Procedures for Validity Assessment 69
9.2 Homeowners 70
9.3 Tenants 73
9.4 Landlords 77

10.0 DESCRIPTIVE STATISTICS PROFILE OF RENOVATION EXPERIENCE 81

10.1 Homeowners 82
10.2 Tenants 86
10.3 Landlords 90

11.0 CONCLUSIONS 97

LIST OF EXHIBITS

Exhibit 2.1 Survey Logistics 8

Exhibit 3.1 Landlord Identification by Tenants 12
Exhibit 3.3 Sequential Identifiers 15
Exhibit 3.4 Reasons for Use of "Hot-Line" Assistance. 16
Exhibit 3.5 Non-Response Survey Contact Results 18
Exhibit 3.6 Reasons for Not Responding 19

Exhibit 5.1 Response Rates by Province 26
Exhibit 5.2 Calculations of Response Rates for the Mail Survey 27
Exhibit 5.3 Estimates of Ineligible Respondents from Non-Response Survey 29
Exhibit 5.4 Estimates of the True Overall Response Rates by Respondent Type 29
Exhibit 5.5 Response by Wave 31

TABLE OF CONTENTS
CONTINUED

Page

LIST OF EXHIBITS (Continued)

Exhibit 6.1 Sample Characteristics 35
Exhibit 6.2 Comparison of Building Characteristics for Respondents and Non-Respondents by Type 39
Exhibit 6.3 Specification of File Weights to Correct for Disproportionate Sampling and Response Rates by Strata 42

Exhibit 7.1 Partial Response by Questionnaire Section for Homeowners 44
Exhibit 7.2 Homeowner Item Non-Response for Selected Variables 46
Exhibit 7.3 Partial Response by Questionnaire Section for Tenants 47
Exhibit 7.4 Tenant Item Non-Response for Selected Variables 48
Exhibit 7.5 Partial Response by Questionnaire Section for Landlords 48
Exhibit 7.6 Item Non-Response for Selected Landlord Variables 49

Exhibit 8.1 Summary of Problems Detected in Consistency Check of Homeowner Questionnaire .. 56
Exhibit 8.2 The Results of the Split-Halves Sub-Sample Analysis on Selected Variables for Homeowners 59
Exhibit 8.3 The Reliability of the Summary Condition Scales for Homeowners 60
Exhibit 8.4 Summary of Problems Detected in Consistency Check of Tenant Questionnaire 61
Exhibit 8.5 The Results of the Split-Halves Sub-Sample Analysis on Selected Variables On Tenant Questionnaire 63
Exhibit 8.6 The Reliability of the Summary Condition Scales for Tenants 64
Exhibit 8.7 Summary of Problems Detected in Consistency Check of Landlords Questionnaire .. 65
Exhibit 8.8 The Results of the Split-Halves Sub-Sample Analysis on Selected Variables ... 66
Exhibit 8.9 The Reliability of the Summary Condition Scales for Landlords 67

Exhibit 9.1 Comparison of House Characteristics for Homeowner to Statistics Canada Data 72
Exhibit 9.2 Summary of Construct Validity Checks for Homeowner Data 74
Exhibit 9.3 Comparison of Tenant Data from the National Housing Study and the Landlord Pilot Study 75

TABLE OF CONTENTS
CONTINUED

Page

EXHIBITS (Continued)

Exhibit 9.4 Summary of Construct Validity Checks for Tenant Data 76
Exhibit 9.5 Comparison of Landlord Data from the National Housing Study and the Landlord Pilot Study 78
Exhibit 9.6 Summary of Construct Validity Checks for Landlord Data 79

Exhibit 10.1 Percentage of Homeowners Doing Renovation Work in 1985 82
Exhibit 10.2 Ten Most Frequently Cited Items for Renovation in 1985 by Type of Renovation -- Homeowners 83
Exhibit 10.3 Ten Most Frequently Cited Items for Renovation in 1985 by How the Work Was Completed -- Homeowners 84
Exhibit 10.4 Reasons for Renovating -- Homeowners ... 85
Exhibit 10.5 Intentions to Renovate -- Homeowners ... 86
Exhibit 10.6 Percentage of Tenants Doing Renovation Work in 1985 86
Exhibit 10.7 Ten Most Frequently Cited Items for Renovation in 1985 by Type of Renovation -- Tenants 88
Exhibit 10.8 Ten Most Frequently Cited Items for Renovation in 1985 by How the Work Was Completed -- Tenants 89
Exhibit 10.9 Intentions to Renovate -- Tenants 90
Exhibit 10.10 Percentage of Landlords Doing Renovation Work in 1985 90
Exhibit 10.11 Ten Most Frequently Cited Items for Renovation in 1985 by Type of Renovation -- Landlords 92
Exhibit 10.12 Ten most Frequently Cited Items for Renovation in 1985 by How the Work Was Completed -- Landlords 93
Exhibit 10.13 Reasons for Renovating -- Landlords 94
Exhibit 10.14 Intentions to Renovate -- Landlords 95

LIST OF APPENDICES

APPENDIX A.1 Survey Questionnaire with Marginals - Homeowner
APPENDIX A.2 Survey Questionnaire with Marginals - Tenant
APPENDIX A.3 Survey Questionnaire with Marginals - Landlord

APPENDIX B Field Report of RDD Sample Generation

TABLE OF CONTENTS
CONTINUED

APPENDICES (Continued)

APPENDIX C.1 Survey Overview
APPENDIX C.2 Non-Response Survey for Landlords

APPENDIX D.1 - Record Layout -- Homeowners
APPENDIX D.2 - Record Layout -- Tenants
APPENDIX D.3 - Record Layout -- Landlords

APPENDIX E - Detailed Supplementary Tables of Response Rates

APPENDIX F.1 - Comparison of Characteristics for Respondents and Non-Respondents - Homeowners
APPENDIX F.2 - Comparison of Characteristics for Respondents and Non-Respondents - Tenants
APPENDIX F.3 - Comparison of Characteristics for Respondents and Non-Respondents - Landlords

APPENDIX G.1 - Breakdown of Missing Values by Respondent Characteristics -- Homeowners
APPENDIX G.2 - Breakdown of Missing Values by Respondent Characteristics -- Tenant
APPENDIX G.3 - Breakdown of Missing Values by Respondent Characteristics -- Landlords

EXECUTIVE SUMMARY

1.0 Objective of the National Housing Study

The National Housing Study provides CMHC with timely and accurate data on current housing conditions and the nature and extent of home renovation activity in 1985 for a representative sample of Canada's low rise residential stock. This study may well be the most important housing study ever attempted in Canada. A survey of the current and emerging market for rehabilitation among a representative sample of homeowners, tenants and landlords is a crucial policy and evaluation data requirement. The national survey the fruition of many years of intensive investigation into the problem of designing and implementing practical, reliable and valid survey methods for this challenging task.

The National Housing Study supplies information in three key areas for subsequent analysis:

i) state of repair of the existing low rise housing stock;

ii) the nature and extent of low rise residential renovation activity in 1985 and underlying determinants and constraints; and

iii) the socio-economic characteristics and building operating costs of publicly-assisted renovators, non-assisted renovators and non-renovators.

The overall rehabilitation and conservation data base will play a vital and recurring role in the areas of program evaluation, market forecasting, and basic research. The survey data base created as a result of this study will be the key empirical ingredient in this broad research agenda.

The specific responsibilities of Ekos Research Associates in conducting this survey have been fourfold:

i) assist CMHC in refining the research design, including survey instruments developed for preliminary studies;

ii) conduct the data collection;

iii) prepare a computerized data base; and

iv) conduct a detailed analysis of data quality including an assessment of method error, sampling error and measurement error.

2.0 METHODOLOGY

The methodology for the project was based on refinements to telephone and mail survey techniques developed during the course of other major studies conducted for CMHC. The main features of the methodology can be summarised as follows:

- The study population was defined as all owners, renters and landlords of low-rise dwellings (i.e., four stories or less) in Canada.
- The survey was conducted by mail, with separate questionnaires being sent to homeowners, tenants and landlords for self-completion. Reminders and follow-up questionnaires were also sent at scheduled intervals.
- Homeowner and tenant respondents were first contacted by telephone to solicit agreement to receive a questionnaire.
- The sample of telephone numbers for homeowners and tenants was selected with a computerized random-digit generation procedure. Sample stratification ensured a minimum number of respondents in each province.
- Landlords were identified by tenants. Where necessary, additional mailing information was acquired through both supplementary research and direct contact with landlords. The second landlord questionnaires were delivered by courier.
- All mailing list and survey data were computerized. Each case (i.e., potential respondent) was assigned a unique identifier that permitted tracking through the three waves of the survey. Common elements of the case identifiers also permitted the linkage of tenants and landlords.
- A brief telephone survey was conducted with a sample of non-respondents to provide data to test for bias in the responding sample.

3.0 OVERALL RESPONSE RATES AND SAMPLE CHARACTERISTICS

A total of 24,095 questionnaires were mailed (excluding reminders); 16,264 to homeowners, 4,996 to tenants and 2,835 to landlords. A small number of these questionnaires were returned for various reasons (e.g, moves, inappropriate landlord) and the cases were considered ineligible. The following table summarises the final sample characteristics and the response rates.

	Number of Eligible Cases	Completed Questionnaires Received	Overall Response Rate
Homeowners	15,865	8,972	56.6%
Tenants	4,476	2,568	57.4%
Landlords	2,383	977	41.0%

A survey of non-respondents was also conducted which provided data to revise the estimated number of eligible respondents. The findings resulted in adjusted response rate calculations of 68 per cent for homeowners and tenants, and 53 per cent for landlords.

The final sample characteristics for each province and respondent type are as follows:

Province	Homeowners	Tenants	Landlords
Alberta	1,052	279	96
British Columbia	1,473	483	126
Manitoba	574	118	45
New Brunswick	671	119	62
Newfoundland	483	48	19
Nova Scotia	848	170	82
Ontario	1,440	367	150
Prince Edward Island	268	64	34
Quebec	1,602	798	318
Saskatchewan	561	122	45
	8,972	2,568	977

The response to the first mailing to homeowners and tenants was very positive, in part the because of the initial telephone interview. Although the second reminder and questionnaire was essential, the targetted third wave resulted only in modest additions to the final samples. For future mail surveys involving an initial telephone contact, a third questionnaire and reminder could probably be eliminated unless there is a particularly poor response from important sub-groups of the survey population.

The courier delivery to landlords was successful and was probably necessary to achieve the target response rates. Given the cost of the entire project, the additional costs for courier delivery were more than justified by the high response of this difficult group to the courier package.

4.0 DATA QUALITY

Overall the sample data is of very high quality and there are few cautions that must be given concerning interpretation of the data. Sample sizes are large and relatively precise estimates of the national populations can be made, particularly for homeowners and tenants. Tests for reliability and validity of individual items were thorough and resulted in few apparent problems. One notable exception is the question concerning native status, which many respondents seemed to misunderstand.

One crucial area where further analysis must be performed is the occupant-supplied physical condition data. On their own, the physical condition ratings of homeowners, tenants and landlords, are questionable in terms of reliability and validity. The data must be compared and calibrated with the data supplied by CMHC inspectors for a subsample of dwellings. Systematic biases can then be corrected and the condition data used in further analyses conducted on the entire sample.

5.0 CONCLUSIONS

To summarise, this project has been highly successful in terms of method, sample results and data quality. The methods developed and refined in several projects conducted by CMHC over the last few years have shown their worth in what is arguably the most important project of them all.

1.0 INTRODUCTION

1.1 Objective of the National Housing Study

The National Housing Study provides CMHC with timely and accurate data on current housing conditions and the nature and extent of home renovation activity in 1985 for a representative sample of Canada's low rise residential stock. This study may well be the most important housing study ever attempted in Canada. A survey of the current and emerging market for rehabilitation among a representative sample of homeowners, tenants and landlords is a crucial policy and evaluation data requirement. The national survey is the fruition of many years of intensive investigation into the problem of designing and implementing practical, reliable and valid survey methods for this challenging task.[1]

The National Housing Study supplies informatin in three key areas for subsequent analysis:

i) the state of repair of the existing low rise housing stock;

ii) the nature and extent of low rise residential renovation activity in 1985 and underlying determinants and constraints; and

iii) the socio-economic characteristics and building operating costs of publicly-assisted renovators, non-assisted renovators and non-renovators.

The overall rehabilitation and conservation data base will play a vital and recurring role in the areas of program evaluation, market forecasting, and basic research. The survey data base created as a result of this study will be the key empirical ingredient in this broad research agenda.

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[1] Most notably the CMHC-funded U.S.-Canada Survey of Physical House Condition (1979-1981), the Survey of Housing Units (1974), the Residential Rehabilitation Assistance Program evaluation (1982-1984), and the most recent Landlord Pilot and RDD-Test studies (1985-1986).

The specific responsibilities of Ekos Research Associates in conducting this survey have been fourfold:

i) assist CMHC in refining the research design, including survey instruments developed for preliminary studies;
ii) conduct the data collection;
iii) prepare a computerized data base; and
iv) conduct a detailed analysis of data quality including an assessment of method error, sampling error and measurement error.

1.2 Organisation of the Report

This report is organised into 11 sections that reflect six major concerns of the study. An overview of the research design and survey methodology is presented in Section Two. The administration of the survey and data collection procedures are presented in Section Three. Data base management procedures, and an associated discussion of method error are presented in Section Four. Sampling errors and the problems of sample bias are discussed in Sections Five, Six and Seven. Section Five presents an analysis of the overall response to the various data collection procedures. Section Six presents the characteristics and representativeness of the final samples. Section Seven presents an analysis of partial response to survey items and a discussion of bias in item completion. Measurement errors are discussed in Sections Eight and Nine. Section Eight deals with the question of data reliability and Section Nine deals with the question of data validity. A descriptive statistical profile of respondents is presented in Section Ten. Finally, conclusions are presented in Section 11.

2.0 OVERVIEW OF THE METHODOLOGY

2.1 Research Design

The methodology for the national housing study had been nearly complete prior to the commencement of this survey. The basis for the substantive content of the survey (e.g., the statement of issues and research concepts, the linkages of operational measures to concepts) had been determined during the 1985-86 Landlord Pilot Study. The survey methodology (e.g., survey type, sampling plan, questionnaire format) reflects the knowledge and experience gained during the CHOSP/CHRP mail survey, Landlord Pilot and RDD-Test studies.

Despite the major advantages provided by the results of these earlier projects, the national housing survey was a complex and expensive project and refinements to the research design required considerable care and planning to avoid potentially serious problems. A series of in-depth meetings and consultations were held with CMHC to review all phases of the research design, with particular emphasis placed on questionnaire design and sampling procedures.

The main features of the methodology can be summarised as follows:

- The survey was conducted by mail, with separate questionnaires being sent to homeowners, tenants and landlords for self-completion. Reminders and follow-up questionnaires were also sent at scheduled intervals. These questionnaires are presented in Appendix A and are annotated with the final survey marginals.
- Homeowner and tenant respondents were first contacted by telephone to solicit agreement to receive a questionnaire.

- The sample of telephone numbers for homeowners and tenants was selected with a computerized random-digit generation procedure. Sample stratification ensured a minimum number of respondents in each province.
- Landlords were identified by tenants. Where necessary, additional mailing information was acquired through both supplementary research and direct contact with landlords.
- All mailing list and survey data were computerized. Each case (i.e., potential respondent) was assigned a unique identifier that permitted tracking through the three waves of the survey. Common elements of the case identifiers also permitted the linkage of tenants and landlords.
- Data base management, data quality assessment and statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS).

2.2 Preliminary Contacts

As already stated, homeowners and tenants were first contacted by telephone to solicit their participation in the survey. Random digit dialling (RDD) procedures based on computer generated telephone numbers were used to randomize these contacts. RDD methods were used after results from the Landlord Pilot and RDD-Test studies indicated that the telephone method was far less costly than alternative methods, without introducing unwanted sample bias. The use of 3-digit exchange codes with primarily residential numbers ensured efficiency. Randomization of the 4-digit numbers ensured equal representation of people with unlisted numbers and more transient respondents (e.g., tenants). No stratification by tenure (i.e., homeowner/tenant) was employed.

Decima Research was responsible for generating th RDD sample, making the telephone contacts and preparing t computerized mailing lists for homeowners and tenan agreeing to participate. These procedures are discussed in a subsequent section and Appendix B.

Landlords were not contacted directly during th initial telephone interview phase of the survey. Instea tenants were asked to provide landlord information. Th quality of the landlord data was insufficient to finalize mailing list at this time. A further round of research using telephone directories, city directories an information provided by municipal officials as well as a series of direct telephone contacts with landlords, was conducted to improve the completeness of the mailing list for this important sample.

2.3 Logistics of the Mail Survey

After the preliminary contacts, a computerize data tape with names and mailing addresses was prepared b Decima Research. As the mailing list for homeowners an tenants had already been thoroughly edited, including th assignment of postal codes, no further processing wa required. The tape was transferred to a firm sub-contracte for the printing of questionnaires and preparation of th mailing packages. Part of their initial responsibility was to process the computerized mailing list and to assign a unique identifier to each case. This seven-digit identifier contained a respondent type code (i.e., homeowner, tenant or landlord), a language code (i.e., French or English), a four-digit case identifier and a code for the mail-out wave number (i.e., 1, 2 or 3). These seven digit numbers were printed on each questionnaire so that every case could be tracked through the course of the survey. Cases were deleted from the mailing lists for subsequent mail-outs as they were received, ensuring a minimal overlap of those who were mailed a second or third questionnaire with those who had already completed and returned theirs.

All three study samples were sent three "waves" of questionnaires. Each successive wave was sent only to those in the sample who had not responded to the initial mail-out. As with the first mail-out, each questionnaire was accompanied with a postage paid envelope addressed to Ekos Research. The third wave was originally intended to be targetted to 4,000 to 5,000 non-respondents in deficient strata (i.e., provinces). In fact, all non-responding tenants and landlords, and 500 non-responding homeowners in Ontario were sent questionnaires. Each questionnaire was also accompanied by a cover page letter which introduced the survey to the potential respondent. These cover letters changed slightly with each successive mail-out. One week after the first questionnaire was mailed a reminder letter and response incentive (a CMHC publication on house security) was mailed to all sampled homeowners and tenants.

The first landlord questionnaires were mailed approximately three weeks after the first mailings to homeowners and tenants. This additional time was required to update the landlord mailing list with enough additional information to constitute a sufficient sample. This process is discussed in detail in section 3.2. Landlords also received the CMHC publication with the reminder notice sent one week after the first mailing. Landlords were sent the second reminder (and second wave questionnaire) by courier delivery.

The courier delivery option was proposed by Ekos Research and accepted by CMHC on the assumption that it would impress the potential respondent with the importance of the survey and thereby improve the response rates for this difficult sample. The merits of the approach, which were based on our experience with a landlord survey for the Province of Ontario[1], were in fact borne out by the final response rates (discussed in section 5.0).

To assist respondents with the survey, a "hot-line" number was printed on the questionnaires for recipients to phone, without charge, if there were questions about the survey, the questionnaire content or their eligibility to complete the survey. This service is described in section 3.4.

Another component of the field work was the inspection request notice. Landlords and homeowners were asked whether they would consent to having a CMHC building expert telephone and arrange for an appointment to visit their rental building or home. Respondents to the survey who did not complete this question to indicate approval were sent letters to reconsider. The original intention had been to send the reconsideration notices to both landlords and homeowners, but the strong positive response by homeowners altered this requirement and only landlords were sent the notices.

Finally, a sample of non-respondents was surveyed by telephone to determine reasons for non-response and to analyse bias in the final sample.

Exhibit 2.1 presents a flow chart of the survey methodology.

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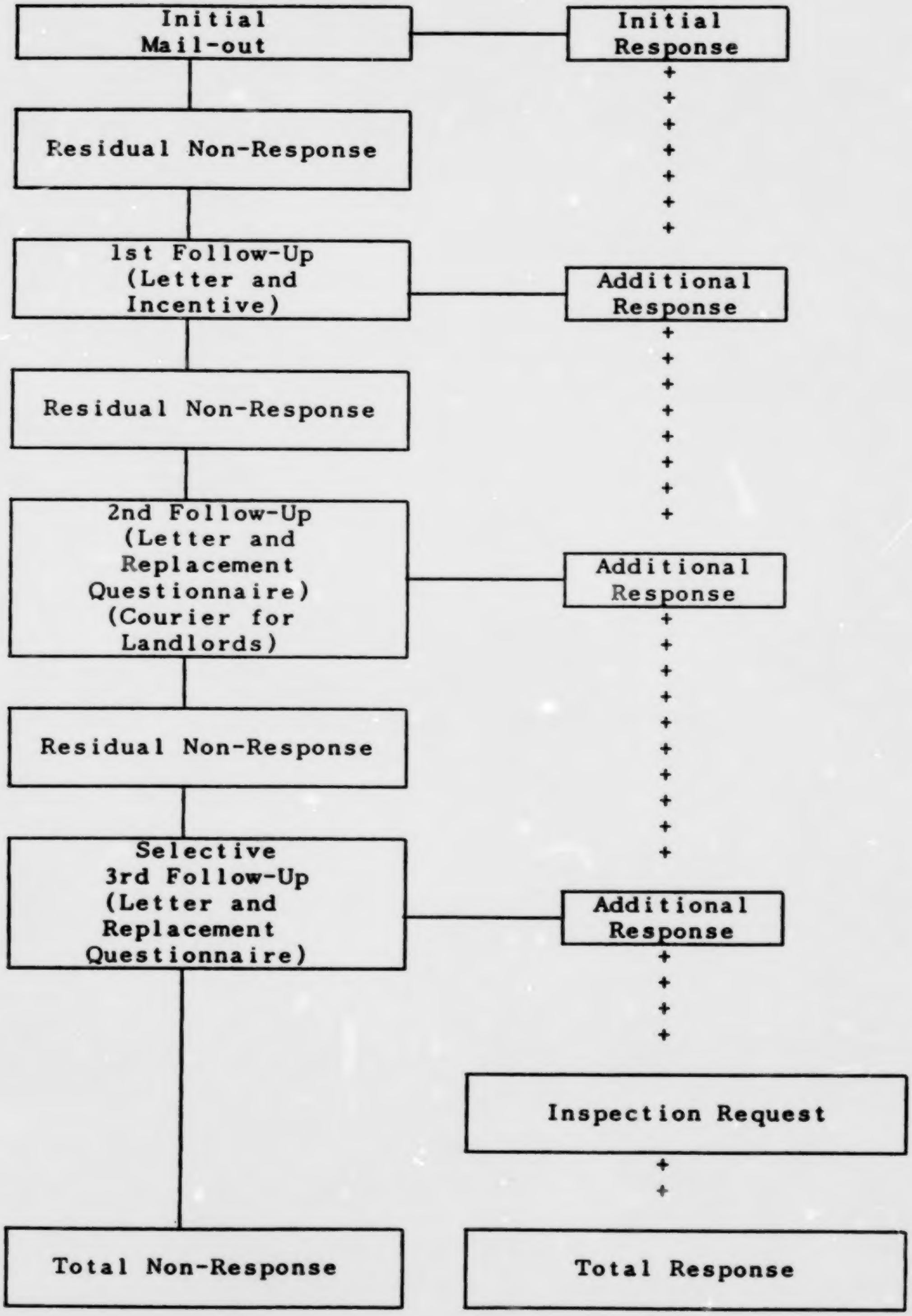
[1] "A Study of Landlords and Rent Regulations" (1985), by Ekos Research Associates for the Commission of Inquiry into Residential Tenancies in Ontario.

EXHIBIT 2.1
Survey Logistics


Initial Mail-out
Initial Response
Residual Non-Response
1st Follow-Up (Letter and Incentive)
Additional Response
Residual Non-Response
2nd Follow-Up (Letter and Replacement Questionnaire) (Courier for Landlords)
Additional Response
Residual Non-Response
Selective 3rd Follow-Up (Letter and Replacement Questionnaire)
Additional Response
Inspection Request
Total Non-Response
Total Response

3.0 SURVEY ADMINISTRATION

3.1 Telephone Contacts with Homeowners and Tenants

3.1.1 Sampling

There were two major components to Decima's method of drawing a sample. The first involves the mapping of telephone switching area boundaries onto Census tracts. The switching area represents the 'hard wired' exchange area, and each exchange typically has a number of NNX's (the first three digits of a telephone number) assigned to it. Telephone numbers cannot be transferred outside an exchange area. The geographic location of any telephone can then be determined within a few miles by knowledge of its first three digits, e.g., in Toronto, it is not possible for a telephone with a 483 or 928 prefix to be in Etobicoke or Scarborough. This permitted the selection of exchange codes in proportion to the population.

The second component of the RDD dialling involved the selection of particular telephone numbers. For each telephone switching area the number of lines in use is known (having been obtained from the telephone companies and updated regularly). In addition, the actual telephone numbers in use are also known. These numbers are typically assigned from particular active blocks of numbers and each block usually contains 100 active numbers.

For each switching area the number of telephone numbers was determined proportional to the population in the switching area and fixed intervals were determined based on the number of live blocks (known blocks assigned to businesses have been identified and excluded). A random start was made and the blocks to be sample were selected. These blocks of open selected lines constituted the population for final selection and provided the three digit prefix as well as the first two numbers of the final four digits. Random numbers were computer-generated to provide the last two digits of an actual phone number. This allowed for the coverage and inclusion of both unlisted and newly listed numbers.

While almost all switching areas in the country can be sampled mechanically, approximately five per cent of the numbers generated for a national survey were hand-pulled. This occurred for those switching areas where less than 50 per cent of available blocks of numbers have been assigned. Typically in such situations this involved switching areas located in remote locales or in small towns assigned their own 'hard wired' exchange. Thus, for example, in certain parts of Nova Scotia some switching areas open blocks of 1,000 potential numbers at a time, but only 100 numbers may be assigned. In such a case where the 'fill ratio' is only ten per cent, it is uneconomical to use an RDD method and hand-pulling from telephone directories makes more sense. Because only certain remote areas and small towns were hand-pulled samples, the traditional objection to this practice - that unlisted numbers are not included in the sample - is not valid. The reason for this is that the proportion of unlisted numbers in rural areas compared with those in urban centres is very small.

3.1.2 Placing the Mail Survey Instruments

While the RDD technique ensured that a sample proportional to the Canadian population was drawn, a series of screening questions were required to 'place' the survey with eligible respondents.

Seven eligibility questions were asked in the following sequence:

- The age of the respondent;
- That the respondent was reached at his or her home;

- The height of the building;
- The building's layout (that units are self contained);
- That the building was used as a permanent or continuous residence;
- Whether the respondent was a renter or owner; and,
- Whether the landlord for a renter was a government agency.

At this point in the placement, the request for the respondent's name and address to mail a short maintenance and renovation survey (in the preferred official language) was made. Mention of the incentive for accepting the survey was also made at this time. Renters were also asked to provide the name and address of their landlord (or building manager or the property management firm responsible for the building if the landlord information was not available).

To ensure that the maximum information regarding householders and landlord's names and addresses was gathered, interviewers were asked to obtain complete names and addresses, including postal codes and telephone numbers. Where respondents did not have postal code information, this was looked up by survey personnel. Because of the importance of identifying and locating landlords, interviewers were asked to probe and record any pertinent information provided by tenants.

The final product delivered by Decima Research to Ekos Research was a data tape which contained mailing list information for homeowners, tenants and the landlords for these tenants.

A description of the telephone contact procedures and a quantitative summary of the result codes are presented in a report prepared by Decima in Appendix B.

3.2 Landlord Identification

Of the 4,996 tenants in the sample, 874 or 17.5 per cent provided enough data about their landlords (i.e., last name, street address, city and telephone number) to justify a mail-out without further editing. Almost 40 per cent (1967 cases) provided no information, and slightly over 42 per cent provided partial information. Exhibit 3.1 summarises the landlord information obtained from the tenant sample.

EXHIBIT 3.1
Landlord Identification by Tenants

No Information		
Missing telephone number, last name, street address and the city	1,967	39.4%
Partial Information		
Missing three of the above mentioned address items	480	9.6%
Missing two of the above mentioned address items	606	12.1%
Missing one address item or phone number	1,069	21.4%
Complete Information		
Not missing any vital address information and having a phone number	874	17.5%
	4,996	100.0%

A variety of tasks were performed by research assistants to prepare a final total of 2,835 landlord cases for mail-out. These included:

- Library research with postal code and telephone directories to obtain complete street addresses or telephone numbers for further research;
- Direct telephone contacts with landlords where only a name and telephone number were available;

- Calling directory assistance to obtain telephone numbers for subsequent landlord contacts; and,
- Contacting municipal officials for information about the ownership of specified building addresses.

Exhibit 3.2 presents the results of the landlord research. A few points should be made about these data. Of the 652 cases which were successfully researched by telephone, 382 involved obtaining information from municipal governments. Of the 149 refusals, 134 were from these sources. This high number was the result of refusals by the governments of large centres. For instance, we obtained information from the municipal governments of Vancouver, Saskatoon and Calgary, to which we made inquiries about a total of 100 landlords.

Where landlords owned multiple properties we deleted all but one case so that the landlords would not have an unreasonable response burden. In a few instances, a property management firm was able to identify different contact persons for different properties and therefore all these cases remained in the mail-out sample. Finally, the public or co-operative housing included cases such as the Newfoundland Housing Corporation or the Alberta Wheat Pool. We deleted most of these although a few remained and were identified during the survey data review.

Out of the sample of 2,835 cases, 82 had tenant (i.e., building) addresses with either general delivery or a box number as the only address information other than the city or town. In those cases, rather than deleting the landlord, the building address identified the town only, in the possibility that the landlord only owned one building in that town.

Landlord Identification Process

Telephone Contacts		
Number of Refusals	149	
Number Unreachable (out of service, wrong number)	150	
Exhausted (4 calls, no contact)	49	
TOTAL DELETED BASED ON TELEPHONE CONTACTS	**348**	**348**
Library Research		
Different Tenants with the Same Landlord	59	
Public, Co-operative Housing	37	
Insufficient Address Information to Complete	1,717	
TOTAL DELETED BASED ON LIBRARY RESEARCH	**1,813**	**1,813**
Completed Addresses		
Number of cases with Complete Landlord Information from Tenants	874	
Number of Addresses Completed by Telephone	652	
Number of Addresses Completed by by Library Research	1,309	
TOTAL MAIL-OUT	**2,835**	**2,835**
TOTAL		**4,996**

3.3 Mailing Procedures

All printing, mail package preparation and mail-outs occurred from a centralised location in Ottawa. The computerized mailing lists with the unique sequential identifiers were essential for tracking cases through the survey, making frequent updates of the mailing lists possible. Exhibit 3.3 presents the numbering system for these case identifiers.

EXHIBIT 3.3
Sequential Identifiers

Questionnaire	Questionnaire Type Identifier (first digit)	Sequential Number	Mail-out Wave Number (seventh digit)
Homeowner-English	1	00001-19999	1, 2 or 3 (as applicable)
Homeowner-French	2	20000-29999	
Tenant-English	3	30000-39999	
Tenant-French	4	40000-49999	
Landlord-English	5	50000-59999	
Landlord-French	6	60000-69999	

The sample of respondents agreeing by telephone to receive a questionnaire, and hence the number of first wave mail-outs, consisted of 16,264 homeowners and 4,996 tenants. Questionnaires were also mailed to 2,835 landlords. The homeowner and tenant (occupant) questionnaires were mailed together, while the landlord questionnaires went at a later date. The delay in landlord mailing occurred as a result of the need for the extensive research on correct mailing addresses.

The occupants were sent a reminder and incentive a week after the first wave of questionnaires. Seven weeks after the first mail-out the second wave questionnaires (to 9,778 homeowners and 3,093 tenants) were sent. The third wave, which was directed to deficient strata, was sent to Ontario homeowners (500) and all remaining tenants (2,572) four weeks after the second wave.

Six weeks after the first wave landlord questionnaires were mailed, the second wave questionnaires (2,297) were sent out by courier. Five weeks following the second wave, the third wave questionnaires were mailed to all landlords who had not responded by the mailing date; a total of 1,944 cases.

3.4 Monitoring and Follow-Up Procedures

In addition to deleting cases as they were returned, all returns were monitored using a daily log which identified the number of ineligible cases returned (e.g., moved, deceased) as well as those which had problems which could be corrected. These included improperly stuffed envelopes, inaccurate addresses that could be researched and questionnaires returned indicating that they were in the wrong language. The majority of these questionnaires involved the homeowner and tenant samples. Once problems were corrected these questionnaires were mailed out again.

A telephone hot-line service provided to respondents received calls from August 22, 1986 until December 22, 1986. It was monitored during that period by a bilingual research assistant from 8:00 a.m., to 7:00 p.m., Monday to Friday. In total, we received 279 calls, 144 from homeowners, 51 from tenants and 84 from landlords. The types of calls received are presented in Exhibit 3.4.

EXHIBIT 3.4
Reasons for Use of "Hot-Line" Assistance

Did not receive publication	1
Received reminder/publication but no questionnaire	81
Send new questionnaire/lost or destroyed old one	29
Received inappropriate language questionnaire	18
Received another questionnaire after already completing one	14
Respondent unable or ineligible to complete	40
Refusal to complete	23
General information (mostly about particular questions)	73

Problems identified by telephone were corrected immediately. Most of the refusals were phoned in after the second and third wave, and 13 of them were by landlords. It is also interesting that all those who telephoned for a new questionnaire did so after receiving the reminder (and incentive), thereby showing the benefit of employing this technique. The general information category included queries about what to include in the questions about work done, what is included in household income, the confidentiality of the survey and whether the respondents were legally bound to complete the survey. This last point probably arose because the Census took place a few months earlier.

3.5 Non-Response Survey

A telephone survey of 900 non-respondents was conducted by Decima Research at the completion of the mail survey. Three random samples of the non-respondents were generated from the updated computerized mailing list files. This survey served three purposes:

- to evaluate the reasons for non-response;
- to analyse sample bias in terms of renovation activity and socio-demographic characteristics; and,
- to revise our estimates of the overall response rates to the survey based on more precise information about the number of eligible respondents.

The survey procedures and sample characteristics are presented in a report prepared by Decima in Appendix C.

A summary of the results of the contacts for the non-response survey is presented in Exhibit 3.5. In addition the percentage of people who reported receiving the questionnaire is also presented. These estimates are very important for calculating the revised estimates of overall response rates presented in section 5.2.2. The comparison of the non-respondent and respondent characteristics and the associated discussion of sample bias are presented in section 6.2.

EXHIBIT 3.5
Non-Response Survey Contact Results

Result of Contact	**Homeowner**	**Tenant**	**Landlord**
o already mailed	7.7%	20.7%	14.0%
o interview completed	80.9%	73.7%	73.0%
o refused	4.7%	3.0%	7.0%
o appt. scheduled	0.0%	0.0%	0.0%
o no interview - other	0.0%	0.7%	1.0%
o partially completed	5.4%	1.3%	2.7%
o other	1.3%	0.7%	2.3%
	n=300	n=300	n=300
Recall receiving Questionnaire			
YES	67.0%	84.7%	70.3%
NO	32.3%	15.3%	25.7%
Refused - don't know	0.7%	0.0%	4.0%
	n=300	n=300	n=300

A summary of the reasons given for not responding to the survey is presented in Exhibit 3.6. Generally speaking, the most common reasons for non-response (e.g.,not interested) are similar to those provided by the non-respondents to the 1986 Landlord Pilot study and were not different from what was expected. The variety of reasons provided, most of which would be difficult to do anything about, suggest that the overall response rates would also be difficult to improve upon. Note that a reason for non-response was given only by people who agreed to answer the non-response survey and who recalled receiving a questionnaire.

EXHIBIT 3.6

Reasons for Not Responding*

Reason for Non-Response	**Non-Responding Group**		
	Homeowners	**Tenants**	**Landlords**
Not interested	26.8%	22.4%	32.9%
Questionnaire too long	6.6	3.3	5.2
Language problem	1.6	3.7	5.8
Absent/away on business	4.9	3.3	4.6
Ineligible	7.7	18.7	6.9
Information too personal	4.4	3.3	4.6
Do not own property/live there	2.7	10.3	12.7
Too busy	8.7	4.7	8.1
Own two properties	0.0	0.0	1.2
Sent in already	6.0	10.7	8.7
Gave it to someone else	0.5	1.9	2.9
Lost it	7.1	1.9	1.7
Sick	4.9	1.4	1.2
Sent to wrong name	0.0	0.9	0.6
Will send it now	2.7	3.7	1.2
Threw it out	0.0	1.4	0.6
Just received it	0.0	3.7	0.6
Old	0.0	0.5	0.0
Forgot	14.2	4.2	0.6
Didn't think I had to	1.1	0.0	0.0
	(n=183)	**(n=214)**	**(n=173)**

*** These percentages have a margin of error of plus or minus seven per cent so most differences are not statistically significant.**

4.0 DATA BASE MANAGEMENT

Data base management includes all the steps that are performed in transforming the raw data from the survey questionnaires into a computerized data base ready for analysis. It also includes those procedures required to maintain a data base on an ongoing basis. For this study our concerns were with coding and editing, data entry, system file creation, file verification and file transfer to CMHC. Our more detailed efforts at data quality assessment are beyond the bounds of what is usually considered to be data base management.

Our primary concern during the data base creation procedures is with method error. Method errors are all those errors which enter the system between the processing of the raw data and the preparation of the final data base used for analysis. Although method error is usually considered to be a more pedestrian concern than the assessment of sampling error (e.g., bias) or measurement error (e.g., validity and reliability), it is of extreme importance. Method errors can have very serious consequences for all phases of the later analyses, particularly since the file creation procedures tend to be forgotten once they are completed whereas other types of errors are subject to ongoing scrutiny. To avoid these problems we have been meticulous in our attention paid to file creation procedures. This summarises the data base management and the steps taken to minimise method error.

4.1 Coding and Data Capture

All questionnaires were individually reviewed, edited and coded prior to data capture. Research assistants were trained for the coding work and provided with a series of specific guidelines. Particular attention was given to the coding of case identifiers and the correct specification of missing values.

4.2 Data File Creation and Verification Procedures

All survey data were subject to 100 per cent verification during data entry. The data were transferred to Ekos on magnetic tape for subsequent transfer to our microcomputer facilities. The unit of analysis was the individual respondent. Three files were created to reflect the different questionnaires and data capture specifications for homeowners, tenants and landlords. Data can be linked at the building level for tenants and landlords with the case identifier. Appendices D.1, D.2 and D.3 present the record layouts for the Homeowner, Tenant and Landlord data files.

The data processing and analysis were completed using our in-house microcomputer network facilities. A variety of software was used for the project including:

- utilities for reading and writing magnetic tapes;
- text editors;
- communications software; and,
- SPSS (Statistical Package for the Social Sciences) for all file creation, data quality assessment and statistical procedures.

4.3 System File Creation Procedures

All system file creation and analysis procedures were conducted using SPSS. The steps for processing the data file can be summarised as follows:

1. **Fully documented SPSS command files were programmed (containing complete variable and value labels, missing value statements, etc.) to create the three system files. Because of the large number of variables in the files (primarily because of the renovation matrix questions) it was necessary to create separate programs and system files for the tenant and landlord data.**

because of the renovation matrix questions) it was necessary to create separate programs and system files for the tenant and landlord data.

2. A full set of descriptive statistics (frequencies and condescriptives) were computed so that all inconsistencies could be identified and corrected. Range checks and consistency edits identified all out of range values so they could be analysed and corrected. Only logically inconsistent values (e.g., a three on a yes/no question where one or two were the only possible answers) were recoded. High or extreme values on such items as financial questions were not recoded. Our assumption was the decisions concerning these items are better left to the analyst.
3. A series of data transformation statements were programmed and incorporated into the SPSS command files. These transformations served two purposes; to recode all out logically inconsistent values, and to assign no applicable values based on the skip logic of the questionnaires.
4. The system files were recreated incorporating the data transformation statements. The descriptive statistics were re-computed to verify that the file creation programs were complete and that 'clean' files had been created.
5. The programs for file definition, data transformations and descriptive statistics were incorporated into a single SPSS command file for each of the homeowner, tenant and landlord system files to be created. The files were copied to magnetic tape for delivery to CMHC.

5.0 ANALYSIS OF OVERALL RESPONSE

The analysis of overall response is very important because of the potential for sample bias introduced by non-response. In this section a detailed analysis of overall response is presented including overall response rates to the telephone and mail surveys, mail survey response rates by survey wave, and response rates to the homeowner and landlord inspection requests.

5.1 Overall Response Rates to the Telephone Survey

The initial telephone survey to solicit participation by homeowners and tenants in the mail survey had specific targets for each province (i.e., strata). The results of this survey, presented in Appendix B, show that these overall targets were achieved. Two questions are of concern to the problem of sample bias. One is whether there are any systematic differences between those who agreed and those who refused to participate in the mail survey. The second is whether homeowners and tenants participated in the survey in representative proportions.

Two tables in the technical summary in Appendix B present data concerning the profile of refusers. A special survey of 2,000 refusals (in the form of additional questions to the contact instrument at the initial telephone solicitation phase) were conducted to provide data to compare the agreeing and refusing respondents.

In general, homeowners refused in somewhat higher proportions (i.e., 82 per cent), and tenants refused in somewhat lower proportions (i.e., 18 per cent) than would be suggested by the survey proportions for these groups (i.e., 76.5 per cent homeowners and 23.5 per cent tenants). However, we believe that these differences, although statistically significant, are not large and are not

substantatively important. Furthermore, the homeowner/tenant variations by province in the agreeing and refusing groups are consistent.

The question of the variation between the expected proportion of tenants in the sample (i.e., 30 per cent) and the actual portion (i.e., 23.5 per cent) is discussed in the appendix. The basic reason was that the expected proportion was based on the inclusion of publicly-owned rental housing and high rise buildings which were subsequently excluded from the survey sample.

These response rates compare favourably with the target response rates of 60 per cent for homeowners, 50 per cent for tenants and 40 per cent for landlords. The absolute number of questionnaires received for each type is higher for the homeowners (8,972 received vs. the 8,071 target), lower for the tenants (2,568 received vs. the 3,781 target) and approximately the same for the landlords (977 received vs. the 1,015 target). Exhibit 5.1 presents the response rates by province.

EXHIBIT 5.1
Response Rates by Province

Province	Homeowners	Tenants	Landlords
Alberta	60.7	59.1	39.7
British Columbia	58.0	58.6	38.7
Manitoba	60.2	57.6	37.5
New Brunswick	55.8	56.1	43.7
Newfoundland	45.6	47.1	32.8
Nova Scotia	60.0	56.5	35.7
Ontario	55.9	56.1	36.9
Prince Edward Island	50.2	60.9	43.6
Quebec	54.2	56.4	46.7
Saskatchewan	59.8	66.0	45.5

5.2 Overall Response Rates to Mail Survey

In this section we examine the overall response rates to the mail survey by questionnaire type, and compare them to the expected response rates. We have calculated response rates based on returned questionnaires as a proportion of the total number mailed, subtracting ineligible cases (e.g., wrong addresses returned in the mail) from the mail-out total. The cut-off date for accepting returned questionnaires was January 9, 1987. We have also recalculated the overall response rates by including the results of the non-response survey. The survey has provided additional information about the proportion of the non-respondents who were ineligible. Appendix E includes detailed breakdowns of response by province and region.

5.2.1 Response Rates Based on Mail Survey

Exhibit 5.2 presents the calculations of response rates for each of the survey samples. The formula for making the calculations for all three types is as follows:

$$\text{Response Rate} = \frac{\text{Number Returned}}{\text{Number Mailed} - \text{Number Ineligible}}$$

EXHIBIT 5.2
Calculations of Response Rates
for the Mail Survey

A. Homeowners

$$\frac{8{,}972}{16{,}264 - 399} = \frac{8{,}972}{15{,}865} = 56.6\%$$

B. Tenants

$$\frac{2{,}568}{4{,}996 - 520} = \frac{2{,}568}{4{,}476} = 57.4\%$$

C. Landlords

$$\frac{977}{2{,}835 - 452} = \frac{977}{2{,}383} = 41.0\%$$

5.2.2 Recalculation of Response Rates Based on Non-Response Survey Results

One of the purposes of the non-response survey was to determine the percentage of non-respondents which represented ineligible cases. As was the case with the 1985 CHOSP/CHRP survey, we assumed that many of the mailed questionnaires for which we did not receive a response did not get to the intended respondent. Some may have been lost in the mail. Others (particularly for tenants) were probably delivered to the address of someone who had moved and were not returned to Canada Post by the incorrect recipient. For landlords, a large number of potential respondents did not receive the questionnaire despite the second wave courier delivery to all addresses. We attribute this to the fact that many questionnaires had to be dropped off without receiving a signature (after a minimum of two attempts at contacting) because the addresses provided by tenants may not have been the most appropriate. We have assumed that for many landlords, the correct information to either properly identify or locate the landlord was not provided by the tenant during the initial telephone contact. Similarly, many tenants seemed to provide inaccurate information about either themselves or the eligible respondent as a large number (i.e., 13.4 per cent) of those in the non-response survey were ineligible for indeterminate reasons.

Determining the extent of these additional ineligible cases would provide a much more realistic, and higher, overall response rate. Exhibit 5.3 presents the reasons for not responding used in our recalculation.

The calculations estimating the adjusted response rates are presented in Exhibit 5.4.

EXHIBIT 5.3
Estimates of Ineligible Respondents from Non-Response Survey

Reason for Non-Response	Respondent Type Homeowner	 Tenant	 Landlord
Did not receive questionnaire	32.3%	15.3%	25.7%
Do not live there/own property	1.6%	7.3%	7.3%
Own two properties	N/A	N/A	0.7%
Other	4.8%	13.4%	4.0%
Total ineligible	38.7%	36.0%	37.7%

EXHIBIT 5.4
Estimates of the Adjusted Overall Response Rates by Respondent Type

A. Homeowners

Mailed	Ineligible	Eligible	Completed	Residual
16,264	399	15,865	8,972	6,893

i) Response rate based on returned questionnaires:

$$= \frac{8,972}{15,865} = .566$$

ii) Estimated number of ineligible cases in residual non-respondent group:

$$= 6,983 \times .387 = 2,702$$

iii) Calculation of confidence intervals for additional ineligible cases ($p \leq .05$), based on non-respondent survey of 300 homeowners:

$$p = .387 \pm 1.96 \sqrt{\frac{.387(1-.387)}{300}} = .387 \pm .055$$

$$= 2,702 \pm 384$$

iv) Adjustment to number of eligible cases:

$$= 15,865 - 2,702 (\pm 384) = 13,163 \pm 384$$

v) Estimate of adjusted overall response rate:

$$= \frac{8,972}{13,163 \pm 384} = 68.2 \pm 2.0$$

B. Tenants

Mailed	Ineligible	Eligible	Completed	Residual
4,996	520	4,476	2,568	1,908

i) Response rate based on returned questionnaires:

$$= \frac{2,568}{4,476} = .574$$

ii) Estimated number of ineligible cases in residual non-respondent group:

$= 1,908 \times .360 = 687$

iii) Calculation of confidence intervals for additional ineligible cases ($p \leq .05$), based on non-respondent survey of 300 tenants:

$$p = .360 \pm 1.96 \sqrt{\frac{.360(1-.360)}{300}} = .360 \pm .054$$

$= 687 \pm 103$

iv) Adjustment to number of eligible cases:

$= 4,476 - 687\ (\pm 103) = 3,789 \pm 103$

v) Estimate of adjusted overall response rate:

$$= \frac{2,568}{3,789 \pm 103} = 67.8 \pm 1.8$$

C. Landlords

Mailed	Ineligible	Eligible	Completed	Residual
2,835	452	2,383	977	1,406

i) Response rate based on returned questionnaires:

$$= \frac{977}{2,383} = .410$$

ii) Estimated number of ineligible cases in residual non-respondent group:

$= 1,406 \times .377 = 530$

iii) Calculation of confidence intervals for additional ineligible cases ($p \leq .05$), based on non-respondent survey of 300 landlords:

$$p = .377 \pm 1.96 \sqrt{\frac{.377(1-.377)}{300}} = .377 \pm .055$$

$= 530 \pm 77$

iv) Adjustment to number of eligible cases:

$= 2,383 - 530\ (\pm 77) = 1,853 \pm 77$

v) Estimate of adjusted overall response rate:

$$= \frac{977}{1,853 \pm 77} = 52.7 \pm 2.2$$

This recalculation of response rates may inflate the estimates to a degree because of our inclusion of all those surveyed who stated that they never received a questionnaire. In fact, some may have received a questionnaire but were not willing to say so. We should note that the estimates of ineligible homeowner respondents are consistent with the findings of the 1985 CHOSP/CHRP survey.

5.3 Survey Response Rates by Mail-Out Wave

Exhibit 5.5 presents the number of questionnaires mailed for each wave by type, and the percentage of the total response that each wave yielded.

EXHIBIT 5.5
Response by Wave

	Wave I	Wave II	Wave III
Homeowners			
Number Mailed	16,264	9,778	500[1]
Number Returned	6,904	2,033	35
Percentage of Total Response (8,972)	77.0%	22.7%	0.3%
Tenants			
Number Mailed	4,996	3,093	2,572
Number Returned	1,822	519	227
Percentage of Total Response (2,568)	71.0%	20.2%	8.8%
Landlords			
Number Mailed	2,835	2,297	1,944
Number Returned	485	421	71
Percentage of Total Response (977)	49.6%	43.1%	7.3%

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[1] Among non-respondent homeowners, only those in Ontario received a third wave questionnaire. All non-responding landlords and tenants were mailed a third wave questionnaire.

Two factors can be seen at work in these results. The much higher portion of response to the first wave for both occupant samples can be expected to be partially a function of the RDD sample generation procedures. All homeowners and tenants were contacted by telephone to solicit participation prior to receiving the first wave questionnaire, making them more predisposed to reply than those receiving an unexpected mailout. Most landlords, however, were not pre-contacted to solicit participation. This was one of the major factors contributing to our expectation of a lower response rate from landlords from the first wave.

The closest comparison that can be made is to the CHOSP/CHRP survey conducted in 1985 for CMHC. The grant recipients were all homeowners, and the first wave yielded 73 per cent of the entire response as compared with 77 per cent for this survey. The CHOSP/CHRP survey involved only two waves of questionnaires. The high first wave response to the CHOSP/CHRP questionnaire may seem to indicate a negligible effect of the prior telephone contact for the National Housing Study. It must be noted that the CHOSP/CHRP survey was not directed to the general homeowner population. These grant recipients may have felt more inclined to complete the survey as they had received money from the Corporation. In addition, the questionnaire dealt with the CHOSP/CHRP grant they had received, a subject of which the respondents would have some knowledge. Despite this important fact, the first wave response percentage to the National Housing Study was four per cent higher than the CHOSP/CHRP. Thus, in addition to the main rationale of sample generation, the telephone contact phase appears to have produced results in terms of early response to the survey.

The second point to note about the table is th the second wave landlord questionnaires were delivered courier. A much higher proportion of the total landl response resulted from this second wave, than in t occupant surveys. We believe that this demonstrates the relative success of using the courier delivery technique improve response, especially for a difficult stu population such as landlords.

5.4 Landlord and Homeowner Inspection Request Notices

The final section of the homeowner and landlor questionnaires asked whether the respondent would agree t discuss a follow-up visit by a CMHC building expert for t purpose of assessing the condition of the sampled buildin We received agreement from 2,818 homeowners and 27 landlords from the questionnaires. These numbers repres 31.4 per cent of homeowners and 27.6 per cent of landlo who responded to the survey. The CMHC target was a total 2,000 dwelling unit inspections, nationally.

Because of the number of homeowners who agre exceeded the CMHC owner targets, we did not send inspection reconsideration notice to any respondents in th sample. A total of 480 landlords who did not agree were sent a letter asking them to reconsider the inspection request. While the percentage of landlords who agreed was relatively high, the absolute number was somewhat below CMHC's expectations. By January 9, 1987, we had received an additional 92 agreements, or 19.2 per cent of those mailed. Seventy-three respondents returned the notice indicati that they did not agree. In total then, we received 3 inspection agreements from landlords, or 37.1 per cent of all our landlord respondents.

6.0 SAMPLE CHARACTERISTICS

In this section the characteristics of the survey sample are presented and the discussion of sampling error is continued. First of all the basic characteristics of the homeowner, tenant and landlord samples are reviewed, including the number of respondents by region. The question of the confidence intervals and levels of significance associated with these samples are also discussed. Next, the representativeness of the samples is examined through comparisons of some basic socio-demographic characteristics between the responding and non-responding groups. Comparisons between the survey statistics and 1981 Census for selected variables are also made. Finally, the conclusions drawn from the analysis of sample representativeness and bias are incorporated into a discussion of weighting. Both the need for weighting and the procedures for file weighting are discussed.

6.1 Overview of the Sample Characteristics

A breakdown of the final number of respondents by respondent type and region is presented in Exhibit 6.1.

EXHIBIT 6.1
Sample Characteristics

Region	Homeowner	Tenant	Landlord
Atlantic	2270	401	197
Quebec	1602	798	318
Ontario	1440	367	150
Prairies	2187	519	186
British Columbia	1473	483	126
Overall	8972	2568	977

Under the assumption of a simple random sample, the caluclation of confidence intervals for statistics computed from these samples would procede in one of two ways, depending on the type of statistic.

The formula for calculating the confidence intervals for a sample proportion is as follows, assuming a 95 per cent level of significance (i.e., 19 times out of 20 the finding is not due to chance):

$$p +/- 1.96 \left[\frac{p\ (1-p)}{\sqrt{n}}\right]$$

where: p = the sample proportion, and
n = the sample size

Assuming a sample proportion of .5 or 50 per cent (i.e., the proportion yielding the broadest confidence intervals) the confidence intervals for the three samples are:

Homeowners = +/-.010 (i.e., +/-1%)
Tenants = +/-.019 (i.e., +/-1.9%)
Landlords = +/-.031 (i.e., +/-3.1%)

The calculation of the confidence intervals for a sample mean requires knowledge of the standard deviation (s) or standard error (s.e.) as well as the number of cases in the sample. The formula is as follows:

$$\bar{x} = x +/- 1.96\ [\text{s.e.}\ (x)\ ]$$

where: the standard error (s.e.) of x = $\frac{s}{\sqrt{n}}$

Unlike the confidence intervals for sample portions, those for a sample mean only make sense with reference to specific variables. For example, the confidence intervals (at a 95 per cent level of significance) for the number of rooms in the dwelling for homeowners and tenants, and for the number of units in the building for landlords are as follows:

Homeowners: Number of Rooms = 6.91 +/- .04
Tenants: Number of Rooms = 4.80 +/- .07
Landlords: Number of Units = 13.81 +/- 2.30

SPSS and SAS perform calculations of variance based on the assumption of a simple random sample. However, many samples, including the ones in this survey, are not of this type. In the case of more complex survey designs, the design effects (i.e., the difference between the actual sample variances and the variance associated with a simple random sample) must be considered.

Fortunately, the stratification by province for this survey will not result in any positive design effects. In other words, the variance for a stratified sample, either proportionate (i.e., the sampling of elements within the strata reflect the population proportions) or disproportionate, will never be greater than for a simple random sample. For a disportionate sample such as the one for this study, Kish (1965)[1] indicates that the gains from decreased variance will be modest and he recommends ignoring the negligible improvements. Thus, the variance estimates computed by SPSS or SAS and used to calculate confidence intervals can be used without further calculation. We should note that design effects for cluster samples are always positive. Cluster sampling improves the efficiency and cost of data collection but involves some sacrifice in the precision of variance estimates.

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[1] Kish, Leslie, Survey Sampling, John Wiley and Sons, New York, 1965.

6.2 Comparisons Between Respondents and Non-Respondents

The issue of sample bias was addressed through detailed comparisons between the survey respondent and non-respondent samples. Comparisons were possible for seven variables including a need for repair question, a renovation question and five socio-demographic characteristics. The only limitation of this analysis was the relatively small number of cases (i.e., 300) for each of the three non-respondent samples. Confidence intervals for a sample proportion with 300 cases ($p \leq .05$) are approximately +/-5.7 per cent. For a sample of 200 (i.e., excluding missing data) the margin of error increases to +/-6.9 per cent. Thus, the differences between the respondent and non-respondent samples had to be relatively large for us to conclude that they were statistically significant.

The comparisons for the need for repair and renovation questions are presented in Exhibit 6.2. For the need for repair question, the most important category to this survey is the major repair category. The differences in responses for this item for the three respondent types are small and none are statistically significant. For homeowners and tenants, there are statistically significant differences in the minor repair and regular maintenance categories. A greater percentage of these respondents lived in dwellings which required minor repairs, while fewer required only maintenance. However, given broad the confidence intervals, it can not be assumed that the real differences are large and we do not believe that they present a serious problem for sample bias.

EXHIBIT 6.2
Comparison of Building Characteristics for Respondents and Non-Respondents by Type

HOMEOWNERS

	Respondent	Non-Respondent
Need for repair		
YES - Major repairs	9.4%	10.4%
YES - Minor repairs	21.3%	11.6%
NO - Regular maintenance	69.2%	78.0%
	n = 8591	n = 164
Any renovation work done in 1985		
YES	50.0%	37.3%
NO Work Done	50.0%	62.7%
	n = 8514	n = 166

TENANTS

	Respondent	Non-Respondent
Need for repair		
YES - Major repairs	12.0%	9.4%
YES - Minor repairs	32.5%	21.5%
NO - Regular maintenance	55.5%	69.1%
	n = 2318	n = 181
Any renovation work done in 1985		
YES	23.0%	29.0%
NO Work Done	77.0%	71.0%
	n = 2340	n = 193

LANDLORDS

	Respondent	Non-Respondent
Need for repair		
YES - Major repairs	10.8%	12.7%
YES - Minor repairs	22.7%	16.7%
NO - Regular maintenance	66.5%	70.7%
	n = 821	n = 150
Any renovation work done in 1985		
YES	60.0%	57.5%
NO Work Done	40.0%	42.5%
	n = 801	n = 153

For the question of renovation work done in 1985, there is a pattern which suggests that renovators were more likely to respond to the questionnaire. For tenants and landlords, the differences are not statistically significant, although slightly higher proportions of renovators are indicated to be in the respondent group. For homeowners, the difference is statistically significant with 50 per cent (+/- one per cent) of respondents having done renovations and only 37.2 per cent (+/-7.4 per cent) of non-respondents having done renovations.

Unfortunately, these differences are probably attributable to an error in asking the renovation question on the non-response survey. The survey questionnaire defines renovation as repairs, improvements and maintenance, while the non-response survey omits the maintenance component. We believe that this error is the cause of the different sample statistics. Although question comparabiity makes a direct quantitative comparison impossible, we do not believe that the sample is significantly biased towards renovators.

Comparisons of socio-demographic characteristics of respondents and non-respondents, with breakdowns for homeowners, tenants and landlords are presented in detail in Appendix F. In general, responding homeowners tend to be better educated and have a higher annual household income. Also, there is a higher proportion of people from Quebec and people who speak French in the non-respondent homeowner group. (This bias is corrected when correct weights are applied to the survey strata.)

Responding tenants also tend to be more highly educated than the non-respondents. Differences in household income, however, are trivial. Language and province of origin differences are not statistically significant, although the patterns are similar to the homeowner data.

For landlords there are fewer variables for which direct comparisons between respondents and non-respondents can be made. The differences are not statistically significant.

6.3 File Weighting

File weighting needs to be peformed to correct for disportionate sampling by strata (i.e., region) and response bias. File weights are necessary when population inferences are being made. They should not be used, however, in conducting tests of statistical significance. Because of the nature of our analysis of data quality and survey error, we have conducted all our tests on unweighted files. However, weights should be used in making population estimates because they will correct for any potential error resulting from the disproportionality of the sample. Exhibit 6.3 presents the proportions of homeowners and renters in the study samples and in the general population.[1] The appropriate weights are then given.[2]

These regional weights should correct any bias in the unweighted homeowner sample concerning French language respondents. The education and income biases in the homeowner sample may be a factor in the analysis of renovation expenditures. However, this will require further analysis and should be decided at a later time. In the tenant sample we do not see the education bias as being a factor requiring weighting, given the similarity of the income statistics in the respondent and non-respondent samples.

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[1] These figures are based on the 1981 Census. Data from the 1986 Census should be used when it becomes available.

[2] It should be noted that the study population of tenants is not the same as the population of the Census. However, it is the regional differences within the tenant sample and not the overall proportion of tenants which matters for the weighting. Where there are regional differences in the tenant population/sample proportions (e.g., as would be caused by a higher proportion of high rise dwellers in one region), our weights will be subject to some error.

EXHIBIT 6.3
Specification of File Weights to Correct for Disproportionate Sampling and Response Rates by Strata

	Homeowners			Tenants		
Region	Sample Proportion	1981 Census Proportion	File Weight	Sample Proportion	1981 Census Proportion	File Weight
Atlantic	25.3%	9.8%	.387	15.6%	5.5%	.353
Quebec	17.9%	22.6%	1.263	31.1%	32.5%	1.045
Ontario	16.0%	36.5%	2.281	14.3%	34.8%	2.434
Priaries	24.4%	18.6%	.762	20.2%	15.8%	.782
British Columbia	16.4%	12.5%	.762	18.8%	11.4%	.606

7.0 ANALYSIS OF PARTIAL RESPONSE

An analysis of partial response to individual items on a questionnaire is important for two reasons. First of all, problems with partial response can indicate problems with question or questionnaire design. This has not been a major consideration at this stage of the study. However, partial response problems are also very important to questions of sample error. They are pertinent in two ways. A high non-response for a particular item will lower the number of valid cases on which margins of error (i.e., confidence intervals) are calculated. Partial response problems are also very important if the rates of response to an item are significantly different for subgroups within the sample. This type of response bias must be analysed to avoid drawing erroneous conclusions from a sample that might be error-free in terms of overall response.

In this section partial response is analysed in three ways. The average non-response to a series of similar items organised by questionnaire sections is examined. (Note: The average non-response is calculated very simply by taking the sum of the item non-response for a series of questions and dividing by the number of items.) Next, non-response rates to important individual items are examined. Finally, some breakdowns of non-response by key respondent characteristics are presented.

There is one very general problem that pervades the analysis of non-response for these questionnaires. The problem arises in part from the complexity of the questionnaire. It concerns the difficulty of distinguishing "not applicable" values from other types of specified non-response (e.g., "don't know") or unspecified non-response (e.g., a blank). The National Housing Survey questionnaires have several questions for which the respondent is given a choice of responses that include a value for a negative response such as "don't know", "no" or "source not used". In strictly technical terms, these are valid responses and not missing ones. However, many respondents (and most in some cases) simply skip an item if they do not believe that it applies to them rather than completing all the negative codes. Ignoring this fact can result in an invalid calculation of non-response. In some cases the results can be more problematic. For example, one series of questions asks the respondent to specify the importance of various reasons for renovations on a seven point scale. Many respondents skipped the question, however, (apparently as being not applicable) rather than specifying an "unimportant" value. The mean scores resulting from these scales then are overestimated, even though the relative rankings are probably accurate.

7.1 Homeowner Questionnaire

The average percentage of missing values for six major types of questions on the homeowner questionnaire are presented in Exhibit 7.1. The number of variables used to compute the missing data percentage for each summary index are also presented.

EXHIBIT 7.1
Partial Response by Questionnaire Section for Homeowners

Question Type	Average Item Non-Response*	Number of Variables in Index
Building Characteristics	2.9%	12
Physical Condition	4.7%	16
Renovation Behaviour	10.4%	12
Reasons for Renovating	20.6%	11
Household Characteristics	9.6%	10
Household Operations	6.6%	8

* Percentages are based on all cases in the sample.

The renovation behaviour questions (e.g., sources of information about renovation) and the reasons for renovating questions both have relatively high average item non-response at 10.4 per cent and 20.6 per cent respectively. Both of these question types are subject to the problem of respondent non-completion of not applicable items or items of little personal importance that have already been discussed. The level of item non-response for the household characteristic variables (9.6 per cent) is quite acceptable given that this index includes a household income variable and variables about the respondent's spouse (which are often left blank when there is no spouse). Average item non-response for the other types of questions is low.

Data concerning the missing values for individual items is presented with the statistics or can be derived from other data presented in Appendix A. Some selected individual items for which non-response is higher than for the question type summary index are presented on Exhibit 7.2. Item non-response is not necessarily a problem if there is no systematic bias in the response patterns. For example, we expected a higher than average non-response for the household income question and are prepared to accept 18.7 per cent missing data as a positive result. To test for systematic differences in response patterns we have performed analysis of variance and significance tests for all questionnaire items using socio-demographic characteristics and some building/renovation questions as criterion variables. A detailed listing of the more important significant findings is presented in Appendix G.1. In general, this analysis has shown some patterns such as:

- Respondents with only primary school education exhibit higher non-response;
- Homeowners who have lived in the dwelling for more than 20 years exhibit higher non-response; and

- Retirees exhibit higher non-response.

Certain types of analysis may require some adjustment because of the differences in these or other patterns presented in Appendix G.1. In general however, problems with item response bias in the homeowner sample are very minor and do not present data quality problems.

EXHIBIT 7.2
Homeowner Item Non-Response for Selected Variables

Question Type	Item	Missing Data/ Non-Response
Building Characteristics	Number of half bathrooms	11.3%
Physical Condition	Chimney	9.3%
	Outside walls	8.8%
	Drywall/plaster	8.0%
Renovation Behaviour	Use of training courses	19.2%
Reasons for Renovating	Accessibility to handicapped	31.0%
	Make building bigger	29.4%
	Meet health and safety regulations	29.5%
Household Characteristics	Household income	18.7%
	Employment status of spouse	15.9%
Household Operations	Expected selling price of dwelling	9.4%
	Cost of utilities	10.2%
	Amount of property taxes	8.1%

7.2 Tenant Questionnaire

The exhaustive partial response analysis conducted for homeowners was repeated for tenants. The average scores for the item non-response summary indices are presented in Exhibit 7.3.

EXHIBIT 7.3
Partial Response by Questionnaire Section for Tenants

Question Type	Average Item Non-Response*	Number of Variables in Index
Building Characteristics	3.1%	10
Physical Condition	5.0%	8
Renovation Behaviour	10.7%	11
Home Energy Practices	2.2%	2
Experience with Renovation Process	11.3%	11
Household Characteristics	14.6%	11

* Percentages are based on all cases in the sample.

Tenants have provided questionnaires with lower average levels of missing data than the homeowner questionnaires. This surprised us given that tenants engage in much less renovation activity and find some sections of the questionnaire less relevant to their behaviour. The average item non-response for renovation behaviour questions (10.7 per cent) and experience with the renovation process (11.3 per cent) reflect the same or lower than for similar sections of the homeowner questionnaire. Only the responses to the household characteristics questions have higher levels of missing data. As was the case for homeowners, this overall non-response is attributable to lower response to the income and spouse questions.

A summary of selected items for which item non-response was higher than for the summary scales is presented in Exhibit 7.4.

A detailed listing of some of the patterns of non-response is presented in Appendix G.2. A summary of this analysis shows patterns very similar to the homeowner questionnaire, with respondents with only a primary school education, retirees and those with longer tenure in a dwelling exhibiting higher levels of non-response. We do not consider any of these differences to be a threat to data quality for the tenant sample.

EXHIBIT 7.4
Tenant Item Non-Response for Selected Variables

Question Type	Item	Missing Data/ Non-Response
Building Characteristics	Number of half bathrooms	11.2%
	Need for repair	6.5%
Physical Condition	Drywall/plaster	12.7%
Renovation Behaviour	Use of training courses	13.6%
Experience with Renovation Process	Told to leave in next six months	16.7%
	Rent was going to increase	16.3%
Household Characteristics	Education level of spouse	32.6%
	Household income	30.9%

7.3 Landlord Questionnaire

The landlord item non-response analysis was conducted in the same detail as the homeowner and tenant analyses. The average scores for the item non-response summary indices are presented in Exhibit 7.5.

EXHIBIT 7.5
Partial Response by Questionnaire Section for Landlords

Question Type	Average Item Non-Resposne*	Number of Variables in Index
Building Characteristics	5.3%	9
Physical Condition	6.1%	14
Renovation Behaviour	14.2%	13
Reasons for Renovating	24.9%	11
Building Operations	13.1%	10

* Percentages are based on all cases in the sample.

The landlord item non-response is comparatively higher than similar sections in the homeowner and tenant questionnaires, even though landlords engage in more renovation activity. We do not have any particular explanation for this, except that perhaps landlords are relatively more stingy with the information they provided in the same way that they were a harder group from which to elicit an overall response to the survey. Despite some high levels of non-response, we believe that the levels of response are generally very good. It should be remembered that much of the missing data applies to questions which the landlords probably skipped as not applicable to themselves rather than pausing to complete the negative response.

A summary of selected items for which item non-response was higher than for the summary scales is presented in Exhibit 7.6

EXHIBIT 7.6
Item Non-Response for Selected Landlord Variables

Question Type	Item	Missing Data/ Non-Response
Building Characteristics	Number of vacant units	15.7%
Physical Condition	Condition of chimney	19.7%
	Condition of attached structures	8.4%
	Condition of outside walls	8.2%
Renovation Behaviour	Use of training courses	27.0%
	Use of pamphlets	25.3%
Reasons for Renovating	Accessibility to handicapped	39.8%
	Make building bigger	38.6%
	Meet health and safety regulations	32.8%
Building Operations	Building as a per cent of total assets	30.2%
	Cost of utilities	28.3%
	Selling price of building	18.0%

A detailed listing of some of the patterns of non-response is presented in Appendix G.3. Because of the smaller number of cases in the landlord sample, the differences in missing data between subgroups of a criterion variable must be greater to be statistically significant. We did not detect any substantively significant patterns of non-response and do not believe that there are any serious problems with response bias in the landlord data.

8.0 RELIABILITY

8.1 Summary of Procedures for Reliability Assessment

Reliability, along with validity, are the two key issues associated with measurement and measurement error. Reliability refers to the intersubjective repeatability of results using the same instrument to measure the same subject. In more experimental settings, reliability concerns the extent to which an experiment or test yields the same results on repeated trials.

Reliability should be analytically distinguished from stability. Stability refers to the issue of whether a measure produces the same results through time. An instrument or variable may be very reliable but produce different results when repeated measurements are taken because of true changes (through time) in the population.

First, we have examined the problem of assessing the reliability of individual items (variables). Next we have addressed the problem of constructing and estimating the reliability of summary scales based on multiple indicators.

The testing of reliability is derived from classical test theory (cf. Lord and Novick, 1968) which deals with the problem of random measurement error. This approach begins with the assumption that any observed score (x) can be decomposed into a true score (t) and random error (e). Thus,

$$x = t + e.$$

In experimental or quasi-experimental designs, a preferred method to assess reliability is to repeat the same measurement (retest method) or a similar measurement (parallel-forms) on the same people after a period of time. These are generally impossible in the type of studies we are concerned with. Both require a second testing.

Analysis of sub-samples is the practical and recommended alternative method which can be conducted on a single occasion. In split-halves methods, the sample is split randomly into two halves and then reliability is statistically estimated on the basis of similarities or differences in the two sub-samples. Differences should be random and non-significant. It should be remembered that for tests at a 95 per cent level of significance, there is a 1 in 20 probability that a non-significant relationship will show up as significant. Where there is doubt about reliability, a series of balanced and repeated replications of sub-sample analysis should be performed. For example, we can re-divide the file into different halves again and re-run the measures.

Composite measures or summary scales can be very useful in the analysis of survey data. The major advantages of scaling individual items into composite measures are:

(i) parsimony;
(ii) increased reliability (assuming internal consistency);
(iii) increased validity (assuming internal consistency);
(iv) simplification of subsequent analysis;
(v) reduction of computer processing time (and costs);
(vi) attenuates data redundancy and multicollinearity problems.

Whether or not a given item is significantly related to a given theme or subject can either be determined inductively or deductively. The actual form of a composite measure can range from a simple unweighted additive index to more complex weighted, non-linear models. The intended usage and the nature of the data will determine what form the scale should be.

The most common method of creating composite measures is to compute an additive scale. This method assumes the addition of measures of a similar type and level of measurement (e.g. addition of interval - level condition scales or addition of dichotomous - 0/1 - variables).

In assessing the reliability of a summary index we have used a statistic known as Cronbach's alpha. This test is drawn from the psychometric literature and is specifically designed to test the reliability of linear composites such as these summary indices. The measure ranges from 0 (totally unreliable) to +1 (totally reliable). Scores over +.5 are often considered acceptable although many researchers, including ourselves, recommend +.8 as the required level for a usable scale. Another interpretation of the alpha statistic is that its square root is the correlation between the scale and the "true" score (viz. the score free of measurement error).

There is one very important consideration concerning the summary scales for physical condition of the dwelling that should be mentioned before examining the reliability coefficients. Prior to conducting the analysis, we did not expect that information provided by occupants or landlords, on its own, would provide reliable (i.e., internally consistent) summary mesaures. The results presented in this section confirm this expectation. What is required is to use the occupant provided information on physical condition in conjunction with other data. This will also help to address the related issue of validity.

The most useful and practical means of improving the reliability and validity of the occupant data is to compare and statistically calibrate the data from the condition scales with the data provided by technical inspectors on identical scales for the inspection subsample. Predictive models can be formulated and tested so that they identify any systematic biases in the occupant data. The models with the best fit could then be used to create new variables for the entire sample that correct for the biases. This process will increase the validity and reliability of both the individual measures, as well as any summary measures which are computed from the adjusted or calibrated condition scores.

Another way of improving the reliability and validity of the physical condition scores involves a community level analysis. Condition scores aggregated at the community level could be linked with other community measures such as background socio-demographic characteristics, employment and labour force data, and geographic location data. Predictive models could then be formulated and tested which used the condition data to predict rehabilitation activity or intentions at the community level. Ekos has had some success using this approach, improving the explained variance from the Census need for repair question from approximately one per cent to almost 50 per cent by linking it with community data in a large sample of occupants living in housing on-reserve. Such an analytical approach could prove very useful to CMHC given the regional and community variations in housing program need and delivery. It would require assigning Statistics Canada geocodes to the data using postal codes prior to the community level aggregation.

8.2 Homeowner Data

To begin evaluating the reliability of questions included on the homeowner instrument, we performed an analysis of the consistency of responses and the extent of adherence to the questionnaire skip logic. Contradictory responses such as answers to questions which a previous response indicated were not applicable, were taken to indicate reliability problems.

For the most part, the homeowner questionnaires were completed consistently and according to the prescribed skip logic. However, the analysis did detect some minor problems. These relate to four areas of the questionnaire: 1) the question about renovations performed last year; 2) consistency in responding to the matrix items asking what renovations were performed and how they were done; 3) consistency among items indicating planned future renovations; and, 4) consistency among items relating to mortgages. These problems are summarised in Exhibit 8.1.

One of the most important questions on the instrument, both substantively and technically in terms of skip logic is the question asking whether "maintenance, repairs or improvements" were performed on the dwelling in 1985. The question did not seem problematic to the extent that those who answered it gave subsequent answers which were consistent with their earlier response and followed the skip logic properly. However, a sizeable portion of those who did not answer the question indicated through their answers to subsequent questions that they have performed renovations.

Exhibit 8.1 presents some data on the extent of these problems. The figures indicate individual questions in each section for which non-respondents to question 13b gave an answer indicating they had performed renovations. At a minimum, 2.6 per cent of the total sample indicated having performed renovations while not indicating doing so in the first question. This is the percentage which did not answer the renovation question but indicated a source of funding for 1985 renovations.

It is likely that some respondents didn't answer question 13b because they were not sure what was meant by "maintenance, repairs or improvements", but once they were presented with the detailed list of renovations realised that they had performed renovations in the past year.

EXHIBIT 8.1
Summary of Problems Detected in Consistency Check of Homeowner Questionnaire

	Number of Respondents	Per Cent of Total Sample
1985 Renovations		
Did not answer whether renovations were performed in 1985 (Q13b) but indicated in matrix that renovations were done (14a to 14c).	101	1.13%
Did not answer whether renovations were performed in 1985 (Q13b) but indicated sources of funding used for 1985 renovations.	228	2.56%
Indicated what work was done in matrix but not how work was done (Q14a to Q14c).	69	0.77%
Indicated how work was done, but not what work was done (Q.14a to 14c).	28	0.31%
Future Renovation Plans		
Indicated at least one renovation was planned for 1987, but also indicated that there were no plans to renovate (Q20a).	90	1.0%
Indicated that no renovations were planned (Q20a), but indicated an amount that they planned to spend in renovations in 1987 (Q20b).	68	0.76%
Mortgages		
Indicated no outstanding mortgage (Q29) but indicated size of mortgage payments (Q31).	34	0.38%
Indicated no outstanding mortgage (Q29) but indicated frequency of mortgage payments (Q32).	55	0.62%

The problem with the renovation question does not have serious consequences for the analysis. The missing values in question 13b can be recoded to a positive response if subsequent responses so dictate.

On most of the items in the renovation matrix small numbers of respondents indicated that they had performed maintenance, repairs or improvements but did not indicate how they were done. A slightly smaller number indicated how renovations were done but not what the specific nature of the renovation was.

Inconsistencies were discovered with respect to responses about future renovation plans. One per cent of the total sample circled both the response indicating a specific planned renovation and the response indicating that no renovations were planned. Approximately the same percentage indicated that they had no plans to renovate but also indicated a dollar amount they expected to spend on planned renovations. It is unclear why these inconsistencies arose.

Finally, inconsistencies were discovered among responses about the mortgages on the property. About half of one per cent of the sample indicated they had no outstanding mortgage, but gave an amount for the item asking the size of the principal outstanding. A slightly higher proportion indicated no outstanding mortgage but indicated the frequency with which mortgage payments were made. It is unclear which of the responses should be considered accurate. Fortunately, the extent of inconsistency is trivial as a proportion of the total response.

A second way of measuring the reliability of individual variables is to use sub-sampling procedures and to compare means and variances (i.e., for interval level variables) or sample proportions and their distribution, (i.e., for nominal and ordinal level variables). The sub-sampling procedures used were based on split-halves methods. The files were randomly distributed into two halves and statistics for the two sub-samples were compared. Statistically significant differences were taken to mean problems with reliability. The results of the analysis for five representative questionnaire items are presented in Exhibit [illegible].2. As indicated in the Exhibit, there were no statistically significant differences with regards to means, variances, or distributions.

In addition to measuring the reliability of individual items we computed summary condition scales from the condition rating variables and computed Cronbach's alpha coefficients to determine the extent to which the summary scales are reliable measures. This statistic ranges from 0 (totally unreliable) to +1 (totally reliable). A score in excess of +.5 is sometimes considered acceptable, but we do not recommend using scales with an alpha of less than +.8. We computed four summary condition scales for homeowners; an overall condition scale, an exterior of house scale, an interior surfaces scale and a mechanical systems scale. The overall condition scale was computed by adding all 14 condition rating items together and dividing by the number of items. The external condition scale similarly contained the ratings of outside walls, the roof, the chimney, doors and windows and attached structures. The interior surface scale contains finished carpentry, flooring, drywall/plaster and wall surfaces. Finally, the mechanical system scale incorporates the ratings of the electrical, heating/cooling and plumbing systems.

EXHIBIT 8.2
The Results of the Split-Halves Sub-Sample Analysis on Selected Variables for Homeowners

Need for Repairs:

	Sample 1	Sample 2
Major repairs	9.3	9.5
Minor repairs	21.6	21.1
Only regular maintenance	69.1	69.4

$Chi^2 = .34$
$p \leq .84$

Any Renovations in 1985?

	Sample 1	Sample 2
Yes	50.3	49.6
No	49.7	50.4

$Chi^2 = .37$
$p \leq .54$

Rating of Doors and Windows

Sample 1	Sample 2
Mean = 5.4	Mean = 5.[illegible]
Variance = 1.98	Variance = 1.9[illegible]

$p \leq .74$

Total Cost of 1985 Renovation Work

Sample 1	Sample 2
Mean = \$3316	Mean = \$3203
Variance = 60876^2	Variance = 5995^2

$p \leq .95$

Current Selling Price of Unit

Sample 1	Sample 2
Mean = 82099	Mean = 81944
Variance = 61,002	Variance = 5[illegible]6

$p \leq .89$

The Cronbach's alpha coefficient for each of the scales is presented in Exhibit 8.3. The scores in Exhibit 8.3 indicate that the interior surface and mechanical systems scales are moderately reliable while the overall condition scale and the external house condition scale are not. The alpha coefficient for the exterior condition scale can be increased from .41 to .52 if the roof and chimney scores are not included in the index. The overall condition index can be increased from .36 to .39 if several items are excluded but there is not logical or practical reason for doing so. The other coefficients can not be improved upon with this data. We do not recommend using any of these indices without further calibration with the inspector data.

EXHIBIT 8.3
The Reliability of the
Summary Condition Scales for Homeowners

Scale	Cronbach's Alpha
Overall condition	.36
Interior condition	.41
Exterior condition	.52
Mechanical systems	.59

8.3 Tenants

The consistency check for tenants indicated a pattern of problems similar to those found among homeowners. These patterns are summarised in Exhibit 8.4. Tenants were not asked to indicate the sources of funding used in renovations, so there was no check for consistency between reported renovation and funding source. As well the questions related to mortgages were obviously not applicable to tenants. Unlike homeowners, tenants were asked if they were planning to move in the next year and what the motivation for those plans were. Twelve respondents (0.48%) answered this sequence of questions inconsistently

EXHIBIT 8.4
Summary of Problems Detected in Consistency Check of Tenant Questionnaire

	Number	Per Cent of Total Sample
1985 Renovations		
Did not answer whether renovations were performed in 1985 (Q9b), but indicated in the matrix that renovations were done (Q10a - Q10b).	24	0.97%
Indicated what work was done in matrix but not how work was done (Q10a - Q10b).	60	2.42%
Indicated how work was done, but not what work was done (Q10a - Q10b).	7	0.28%
Future Renovation Plans		
Indicated that at least one renovation was planned for 1987, but also indicated that there were no plans to renovate (Q21a).	15	0.61%
Indicated that no renovations were planned (Q21a), but indicated an amount that they planned to spend in renovations in 1987 (Q21b).	6	0.24%
Plan to Move		
Indicated they were not planning on moving in next 12 months (Q16) rated motivations for planned move.	12	0.48%

indicating they weren't planning to move and yet rating their reasons for moving. These responses on these items should be excluded from analyses.

For tenants we performed the split-halves sub-sample analysis on all questionnaire items except for those in the renovation matrix. A comparison of variances, means and percentage distributions revealed only one variable with a significant difference (p .05) between the two sub-samples (i.e., age of the sixth person in the household). We are confident that this was due to random variation, and that if samples were redrawn that difference would not re-emerge. A series of balanced and repeated replications of the sub-sample analysis will be required to confirm this hypothesis. The split-halves sample results for five selected key variables are presented in Exhibit 8.5. The table indicates a considerable though not statistically significant difference in the means and variances of the samples with respect to the cost of renovation work. Again we are confident that this variation is unique to the specific sub-samples.

The tenant instrument did not ask tenants to rate exterior features. As a result only three summary condition scales were constructed for overall condition, interior surfaces and mechanical systems. As Exhibit 8.6 indicates the Cronbach's alpha coefficients for the interior surface and mechanical systems scales are adequate only in terms of the most liberal definitions of reliability, while the overall scale is inadequate. The interior condition alpha can be increased from .52 to .59 if the floor condition rating is excluded. The overall condition alpha can be increased very modestly from .42 to .44 if the flooring and insulation ratings are excluded. We do not recommend using any of these summary scales without calibration with the inspector data.

EXHIBIT 8.5
The Results of the Split-Halves Sub-Sample Analysis on Selected Variables On Tenant Questionnaire

Need for Repairs:

	Sample 1	Sample 2
Major repairs	12.7	11.3
Minor repairs	32.8	32.2
Only regular maintenance	54.5	56.4

$\text{Chi}^2 = 1.3$
$p \leq .52$

Any Renovations in 1985?

	Sample 1	Sample 2
Yes	23.3	22.8
No	76.7	77.2

$\text{Chi}^2 = 0.065$
$p \leq .80$

Condition Rating of Heating-Cooling System

	Sample 1	Sample 2
Mean	5.6	5.6
Variance	1.98	1.87

$p \leq .86$

Total Cost of 1985 Renovation Work

	Sample 1	Sample 2
Mean	\$504	\$821
Variance	1,822,560	6,461,7[illegible]

$p \leq .14$

Current Selling Price of Unit

	Sample 1	Sample 2
Mean	387	390
Variance	76,176	67,081

$p \leq .78$

EXHIBIT 8.6
The Reliability of the Summary Condition Scales for Tenants

Scale	Cronbach's Alpha
Overall condition	.42
Interior condition	.51
Mechanical systems	.57

8.4 Landlords

The consistency check for landlords indicated the same patterns of inconsistency found among homeowners. In all instances, except the questions pertaining to mortgages, the landlord results indicated somewhat higher levels of inconsistency than were present among either the tenant or homeowner samples. However, even among landlords, inconsistencies were restricted to relatively small portions of the sample. The results of the consistency analysis are presented in Exhibit 8.7.

The split-halves sub-sample analysis of landlord results was performed on all variables. It produced five instances in which there were statistically significant differences between the samples. It is probable that these differences arose purely out of chance (with p .05), one out of 20 significant findings will be due to random variation). Exhibit 8.8 presents the results for five selected key variables.

Finally, we computed Cronbach's alpha coefficients for four summary condition scales. The scales are identical to those constructed for homeowners. As was the case with those scales, the interior surface and mechanical systems scales were found to exhibit moderate levels of reliability, while the overall condition and the exterior condition scales were found to be unreliable. The alpha coefficients for the summary indices including all the relevant variables

EXHIBIT 8.7
Summary of Problems Detected in Consistency Check of Landlords Questionnaire

	Number	Per Cent of Total Sample
1985 Renovations		
Did not answer whether renovations were performed in 1985 (Q10b) but indicated in matrix that renovations were done (Q11a to Q11c).	21	2.46%
Did not answer whether renovations were performed in 1985 (Q10b) but indicated sources of funding used for 1985 renovations.	27	3.16%
Indicated what work was done in matrix but not how work was done.	22	2.58%
Indicated how work was done, but not what work was done.	5	0.59%
Future Renovation Plans		
Indicated at least one renovation was planned for 1987, but also indicated that there were no plans to renovate (Q22a).	17	1.[illegible]
Indicated that no renovations were planned (Q22a), but indicated an amount that they planned to spend in renovations in 1987 (Q22b).	23	2.[illegible]
Mortgages		
Indicated no outstanding mortgage (Q27) but indicated size of mortgage payments (Q29).	0	0.[illegible]
Indicated no outstanding mortgage (Q27) but indicated frequency of mortgage payments (Q30).	0	0.47%

EXHIBIT 8.8
The Results of the Split-Halves Sub-Sample Analysis on Selected Variables

	Sample 1	Sample 2
Need for Repairs:		
Major repairs	10.3	11.4
Minor repairs	21.7	23.6
Only regular maintenance	68.0	64.9
	$\text{Chi}^2 = .89$ $p \leq .64$	
Any Renovations in 1985?		
Yes	58.2	62.0
No	41.8	38.0
	$\text{Chi}^2 = 1.04$ $p \leq .31$	
Rating of Doors and Windows		
	Mean = 5.4 Variance = 1.87	Mean = 5.3 Variance = 2.05
	$p \leq .18$	
Total Cost of 1985 Renovation Work		
	Mean = $9442 Variance = 482,681	Mean = $9382 Variance = 689,588
	$p \leq .98$	
Current Selling Price of Unit		
	Mean = 374,336 Variance = 10,227,602	Mean = 331,017 Variance = 10,167,632
	$p \leq .64$	

indices including all the relevant variables are presented in Exhibit 8.9. The exterior condition alpha can be increased from .44 to .50 if the outer walls condition scale is not included. The overall condition alpha can be increased from .39 to .42 if the condition scores for the outer walls, roof and insulation are excluded, but there is no justification for doing so. As with the homeowner and tenant summary condition scales, comparison and calibration with the inspector data is required to improve confidence in both the reliability and validity of the data.

EXHIBIT 8.9
The Reliability of the Summary Condition Scales for Landlords

Scale	Cronbach's Alpha
Overall condition	.39
Exterior condition	.44
Interior Surfaces	.54
Mechanical systems	.64

9.0 VALIDITY

9.1 Summary of Procedures for Validity Assessment

Validity refers to the issue of whether a measuring instrument really measures the construct or property it purports to measure. This fundamental concern applies to single indicators and variables as well as to multiple indicator indices. There is one very important consideration about validity. "One validates, not a test, but an interpretation of data arising from a specified procedure" (Cronbach, 1971). In other words, it is quite possible for a measuring instrument to be relatively valid for measuring one kind of phenomenon but entirely invalid for assessing other phenomena. Validation is not of the measuring instrument itself but the measuring instrument in relation to the purpose for which it is being used. For example, a physical condition rating of plumbing equipment may be a valid indicator of its structural integrety but an invalid indicator of its operational efficiency.

The simplest form of validity test is known as face validity. As the term implies, this technique is based on whether or not a relationship between a concept and an observed measurement appears to be true. Peer or expert review is an example of face validity testing. A review of descriptive statistics from survey data constitutes face validity testing.

Criterion-related validity comes the closest to what is meant by the everyday use of the term. This type of validity is at issue when an instrument is used to estimate something that is external to the measuring instrument itself (the criterion). For example, college board exams are valid if they predict how well students will do in college (the criterion). The operational indicator of the degree of correspondence between the test and the criterion (i.e., the objective standard) is usually estimated by the size of their correlation. We have not examined criteria validity in our analysis because of the lack of suitable data. However, CMHC will be able to perform extensive criterion validity analyses when the physical inspection survey on the sub-sample of buildings is complete.

Construct validity is concerned with the extent to which a particular measure relates to other measures in a manner consistant with theoretically derived hypotheses. It is usually the only alternative in the abstract of criterion measures. Construct validation is a process of building up evidence to support (or refute) the validity of a measure. One test or relationship does not tell everything. It involves three steps:

(i) The theoretical relationship between concepts is specified;
(ii) Empirical relationships between concepts and measures are examined; and
(iii) Empirical evidence is interpreted in terms of how it clarifies the construct validity of the measure.

9.2 Homeowners

The validity of the homeowner data was evaluated in two ways. First, we compared the sample data with Statistics Canada data from the 1981 Census and the 1984 Survey of Household Facilities and Equipment. We then performed an evaluation of construct validity by testing the extent to which the relationships between variables from the instrument conformed to our expectations.

Exhibit 9.1 presents the comparison of the homeowner data from the National Housing Study to data on homeowners and their houses from the Statistics Canada sources. Generally, the data support the assumption of validity for the study variables. The distributions of number of rooms, whether a mortgage is outstanding, and the year the dwelling was built are quite similar. There is a sizeable difference, however, in the distributions for type of dwelling. While 88 per cent of the National Housing Study sample lived in a single detached home, only 81 per cent of the Statistics Canada sample did. This disparity can probably be attributed to the different ways in which the two surveys measured dwelling type. The Statistics Canada figures were based on the judgement of a trained interviewer in the context of a face-to-face interview, while the National Housing Study relied on a self-completed questionnaire item. Given that the National Housing Study item asked respondents to categorise their house as a "single detached house" or "other", without presenting a comprehensive and detailed distinction between the two, the Statistics Canada data collected by trained interviewers are probably more accurate. While we have no direct empirical evidence it is likely that this is so for the landlord questionnaire as well. Thus, it seems that the National Housing Study item overestimates the number of house owners and tenants living in single detached houses. We suggest that the National Housing Survey dwelling type variable not be treated as distinguishing between types of houses in a completly valid manner.

There is also a validity problem with respect to the questionnaire item asking respondents to indicate if they consider themselves to be "a Canadian Native Indian, Metis or Inuit". The frequency from this item indicates that 12 per cent of the homeowner sample were Indian, Metis or Inuit. This is extremely unlikely given that estimates obtained from Indian and Northern Affairs Canada and Statistica Canada indicate that Inuit, Metis and Status and

EXHIBIT 9.1
Comparison of House Characteristics for Homeowners to Statistics Canada Data

	National Housing Survey	Statistics Canada
Type of Dwelling:		
Single Detached	88.1%	81.2%
Other	11.9%	18.8%
	n = 8752	n = 5601[1]
Have an Outstanding Mortgage:		
Yes	53.2%	49.7%
No	46.8%	50.3%
	n = 8564	n = 5601[1]
Average Number of Rooms Per Dwelling	$\overline{x}$ = 6.9 n = 8838	$\overline{x}$ = 6.6 n = 5,141,930[2]
Dwelling Built:		
Pre 1945	22.9%	24.2%
1946-1960	22.1%	23.8%
1961-1970	18.4%	19.1%
1971-1979	30.6%	29.7%
1980	3.4%	2.6%
1981	2.5%	0.6%
	7,973	5,141,930[3]

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[1] Source: Statistics Canada Household Facilities and Equipment (March 1984). The data were collected by a labour force survey and are intended to be nationally representative.

[2] 1981 Census Data

[3] In the National Housing Study there were about 680 houses built after 1981. These are not comparable with the Census data and have been omitted.

Non-Status Indians both on and off reserve account for about two per cent of the Canadian population.[1] The discrepancy is most probably due to some respondents misreading the question and intending a positive response to the question to indicate they were "a Canadian native" - that is a native or citizen of Canada. As a result, the question is clearly not a valid indicator of membership in a native group.

In general, our construct validity check identified no problems with the data. The results are summarised in Exhibit 9.2. We found that the results for the need for repair question were consistent with results for individual and summary scale condition ratings. Furthermore, it was found that items rated in poor condition were more likely to be selected for renovating. Finally, the selling price of the house was positively related both to household income and the number of rooms in the house.

9.3 Tenants

Exhibit 9.3 presents tenant data from the National Housing Study and the Landlord Pilot Study. The samples for the two studies are not directly comparable in that the pilot was restricted to urban areas. Nevertheless, the distributions of the data are very similar, increasing our confidence in the validity of our measures. The most noteable differences are in relation to income and cash rent. The higher mean rent and mean income for the pilot study are explained by the urban composition of the sample.

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[1] It should be noted that the estimates given by Statistics Canada and INAC are based on 1981 Census data which are not highly precise. For a more accurate estimate of the size of the Indian, Inuit and Metis population of Canada, it will be necessary to review the results of the 1986 Census, which included a detailed question on the topic.

EXHIBIT 9.2

Summary of Construct Validity Checks for Homeowner Data

- The results of the need for repair question and all individual condition ratings are consistent (i.e., the mean ratings are lowest for houses needing major repairs and highest for those needing only maintenance).

	Major Repairs Necessary	Minor Repairs Necessary	Only Regular Maintenance Necessary
Overall Condition	$\bar{x} = 4.6$	$\bar{x} = 5.3$	$\bar{x} = 6.1$
Exterior Condition	$\bar{x} = 4.4$	$\bar{x} = 5.1$	$\bar{x} = 6.1$
Interior Surface Condition	$\bar{x} = 4.6$	$\bar{x} = 5.2$	$\bar{x} = 6.0$
Mechanical Systems	$\bar{x} = 5.1$	$\bar{x} = 5.7$	$\bar{x} = 6.3$

- For each item, the worse the condition rating, the more likely renovations to the item are planned.

- Positive relationship between income and selling price of house $r = .15$.

- Positive relationship between number of rooms and selling price of house $r = .35$.

EXHIBIT 9.3
Comparison of Tenant Data From the National Housing Study and the Landlord Pilot Study

	Landlord Pilot Study		National Housing Study	
Number of Rooms in Dwelling	$\overline{x}$ =	4.9	$\overline{x}$ =	4.8
	n =	280	n =	2457
Need for Repair:				
Major Repairs		14.0%		12.0%
Minor Repairs		34.3%		32.5%
Regular Maintenance		51.7%		55.5%
	n =	271	n =	2318
Month Cash Rent	$\overline{x}$ =	$448.11	$\overline{x}$ =	$388.25
	n =	273	n =	2311
Household Income	$\overline{x}$ =	$27,264	$\overline{x}$ =	$25,318
	n =	179	n =	1714
Plan to Move in Next 12 Months:				
Yes		34.0%		33.7%
No		66.0%		66.3%
	n =	259	n =	2358

As was the case with homeowners, the question concerning Indian, Metis or Inuit background appears to be an invalid measure. Approximately nine per cent of tenants indicated they were native. While this is not quite as high a proportion as among homeowners, it is still much higher than is indicated by Statistics Canada or INAC figures.

The summary of the construct validity checks exhibits the same patterns as the sample of homeowners. Our confidence in the validity of the tenant data is increased because the variables are related in theoretically plausible ways.

The major findigs from the construct validity tests are presented in Exhibit 9.4.

EXHIBIT 9.4
Summary of Construct Validity Checks for Tenant Data

- The results of the need for repair question and all individual condition ratings are consistent (i.e., the mean ratings are lowest for houses needing major repairs and highest for those needing only maintenance).

	Major Repairs Necessary	Minor Repairs Necessary	Only Regular Maintenance Necessary
Overall Condition	$\overline{x} = 4.0$	$\overline{x} = 4.7$	$\overline{x} = 5.7$
Interior Surface Condition	$\overline{x} = 4.0$	$\overline{x} = 4.6$	$\overline{x} = 5.5$
Mechanical Systems	$\overline{x} = 4.3$	$\overline{x} = 5.1$	$\overline{x} = 5.9$

- For each item, the worse the condition rating, the more likely renovations to the item are to be planned.

- Positive relationship between income and monthly rent $r = .15$.

- Positive relationship between number of rooms and monthly rent $r = .20$.

9.4 Landlords

Exhibit 9.5 presents a comparison of the landlord data with the data from the Landlord Pilot Study. It is difficult to come to any definitive conclusions from the comparison. There are differences but given the small size of the Pilot Study sample, in most cases the differences are within the confidence intervals around the means or proportions. Furthermore, even if we do assume the differences are generalisable beyond the samples, many of the differences might be expected given the urban concentration of the Landlord Pilot sample. For example, it is not surprising that the National Housing Study has proportionately more single family dwellings than the Pilot sample, nor that the mean building age for the National sample is lower than for the more urban Pilot sample. The comparison with the Pilot Study does provide evidence to support our confidence in the validity of our data but this evidence is not clear and strong because of the differences in the survey populations.

The check for construct validity provides more conclusive results. As with the homeowner and tenant samples the need for repair question is consistently related to the condition ratings. Condition ratings are also related to renovation plans in a sensible way. Finally, the size of the building and the selling price are positively related. These relationships support the validity of our data.

EXHIBIT 9.5
Comparison of Landlord Data Form the National Housing Study and the Landlord Pilot Study

	National Housing Study		Landlord Pilot Study	
Number of Years Building Owned	$\bar{x}$ =	10.9	$\bar{x}$ =	9.6
	n =	831	n =	182
Age of Building	$\bar{x}$ =	35.7	$\bar{x}$ =	42.1
	n =	795	n =	179
Need for Repairs:				
Major Repairs		10.8		15.2
Minor Repairs		22.7		26.4
Regular Maintenance		66.5		58.4
	n =	821	n =	178
Selling Price of Building	$\bar{x}$ =	$441,334	$\bar{x}$ =	$345,720
	n =	700	n =	152
Type of Dwelling:				
Single Detached House		29.4		10.6
Other		70.6		89.4
	n =	829	n =	180
Type of Ownership:				
Private Corporation		17.4		11.6
Private Individual		56.4		63.5
Two or More Individuals		21.4		23.2
Other		4.8		1.7
	n =	833	n =	181
Total Cost of Renovation Renovation Work	$\bar{x}$ =	$9411.46	$\bar{x}$ =	$7996.30
	n =	390	n =	136

EXHIBIT 9.6
Summary of the Construct Validity Checks for the Landlord Data

- The results of the need for repair question and all individual condition ratings are consistent (i.e., the mean ratings are lowest for houses needing major repairs and highest for those needing only maintenance).

	Major Repairs Necessary	Minor Repairs Necessary	Only Regular Maintenance Necessary
Overall Condition	$\bar{x}$ = 4.3	$\bar{x}$ = 4.7	$\bar{x}$ = 5.4
Exterior Condition	x = 4.6	x = 5.0	x = 5.8
Interior Surface Condition	$\bar{x}$ = 4.5	$\bar{x}$ = 5.0	$\bar{x}$ = 5.7
Mechanical Systems	$\bar{x}$ = 4.9	$\bar{x}$ = 5.4	$\bar{x}$ = 6.1

- For each item, the worse the condition rating, the more likely renovations to the item are planned.

- Positive relationship between size of building and selling price of building r = .35.

10.0 DESCRIPTIVE STATISTICAL PROFILE OF RENOVATION EXPERIENCE

This section presents a brief descriptive profile of renovation experience for homeowners, tenants and landlords. It is intended to be used as a reference and should be considered as illustrative rather than as an exhaustive presentation of findings. For each of the three types of respondents, a series of tables are presented which include the following information:

- the percentage doing renovation work in 1985;
- the ten most frequently cited items for renovation work in 1985 for each of repairs/replacements, improvements and maintenance;
- the ten most frequently cited items for renovation in 1985 by how the work was done, including paying a firm, paying for materials and paying for labour;
- the ten most frequently cited reasons for renovating; and
- a ranking of the items for which respondents indicate an intention to renovate.

In addition to these tables, a complete set of survey marginals are presented for each respondent type in Appendix A. Finally, a series of tables indicating the type of renovation job last performed in 1985 (as opposed to the specification of the individual components for which work was done) is presented in Appendix H. These tables are based on a content analysis of open-ended questions concerning the type of job last done that followed the detailed component-based renovation question matrices in each questionnaire.

10.1 Homeowners

The percentage of homeowners indicating that they performed renovation work in 1985, along with the percentages indicating work performed by the major building areas, is presented in Exhibit 10.1.

EXHIBIT 10.1
Percentage of Homeowners Doing Renovation Work in 1985

	Number of Homeowners	Percentage
Some type of renovation done	4,255	50.0
Type of Renovation done to dwelling:		
Exterior	3,489	41.0
Interior	3,072	36.1
Mechanical Systems	2,653	31.2

Exhibit 10.2 presents a detailed list of the ten most frequently cited items (as percentages) for renovation work in 1985; first for repairs/replacements, next for improvements and finally for maintenance. Exhibit 10.3 presents a similar listing of the ten most frequently cited items for renovation by how the work was done, with breakdowns by whether the homeowner paid a firm, paid for materials or paid for labour.

EXHIBIT 10.2
Ten Most Frequently Cited Items for Renovation in 1985 By Type of Renovation -- Homeowners

Repairs/Replacements	Percentage
Doors/windows	5.3
Steps/porches	4.9
Sitework (driveway, planting, fencing)	4.7
Roof coverings (shingles)	4.5
Roof gutters and downspouts	4.3
Plumbing fixtures	3.6
Furnace/cooling unit	3.2
Hot water heater	3.1
Wall surfaces (paint and paper)	2.9
Plumbing pipes	2.8
Improvements	
Wall surfaces (paint and paper)	13.2
Sitework (driveway, planting, fencing)	12.0
Carpentry - walls	9.2
Lighting fixtures	7.8
Floor covering - carpeting	7.7
Drywall/plaster	7.1
Carpentry - shelves	7.0
Electrical wiring	6.4
Doors/windows	5.8
Carpentry - floors	5.7
Maintenance	
Wall surfaces (paint and paper)	10.2
Sitework (driveway, planting, fencing)	8.2
Doors/windows	5.6
Steps/porches	5.5
Outside wall finish - wood	5.4
Roof gutters and downspouts	4.5
Outside walls - structural	4.1
Roof coverings (e.g., shingles)	3.4
Carpentry - walls	3.4
Chimney	2.9
Floor covering - carpeting	2.9
Furnace	2.9

EXHIBIT 10.3
Ten Most Frequently Cited Items for Renovation in 1985 By How the Work was Completed -- Homeowners

Paid a Firm	Percentage
Doors/windows	4.3
Floor covering - carpeting	4.2
Sitework (driveway, planting, fencing)	4.1
Furnace/cooling unit	4.0
Roof gutters and downspouts	3.5
Roof coverings (e.g., shingles)	3.2
Electrical wiring	3.0
Plumbing pipes	2.2
Attic insulation	2.2
Chimney	2.1
Plumbing fixtures	2.1
Paid for Materials	
Wall surfaces (paint and paper)	21.5
Sitework (driveway, planting, fencing)	17.9
Steps/porches	11.5
Carpentry - walls	11.4
Doors/windows	10.0
Drywall/plaster	8.9
Lighting fixtures	8.7
Carpentry - shelves	7.3
Carpentry - floors	7.3
Plumbing fixtures	7.1
Paid for Labour	
Wall surfaces (paint and paper)	2.8
Sitework (driveway, planting, fencing)	2.3
Doors/windows	2.2
Steps/porches	2.1
Floor covering - carpeting	2.1
Carpentry - walls	1.8
Drywall/plaster	1.7
Electrical wiring	1.7
Carpentry - floors	1.6
Carpentry - shelves	1.6

Respondents were asked to indicate the importance of a variety of reasons for renovating their building. These reasons were ranked according to the percentage of homeowners who indicated that a given reason had some importance to them. Exhibit 10.4 presents the rankings and the corresponding percentages.

EXHIBIT 10.4
Reasons for Renovating -- Homeowners

Reason	Percentage*
To look better inside	83.9
To look better outside	78.6
Less costly to heat	67.9
Other (unspecified) reasons for renovating	67.4
Less costly to maintain	64.8
Have a higher resale value	60.5
Make dwelling safer	60.4
Meet health/safety regulations	34.3
Make dwelling bigger	27.3
More accessible to the handicapped	6.8

* Percentages indicate the proportion of respondents attributing some importance to each of these reasons on a series of seven point scales.

The percentages of homeowners who indicated that they intended to renovate particular building components were also calculated and ranked. The results are presented in Exhibit 10.5

EXHIBIT 10.5
Intentions to Renovate -- Homeowners

Area of Renovation	Percentage*
Sitework	27.1
No plans to renovate	26.2
Walls (inside or outside)	26.2
Doors and windows	23.3
Flooring	18.7
Roof, chimney	16.9
Carpentry	15.3
Insulation	11.2
Plumbing	10.3
Other areas	9.0
Electrical	8.1
Heating/cooling	5.9

* Percentages sum to more than 100 per cent because respondents could select more than one item.

10.2 Tenants

The percentage of tenants indicating that they performed renovation work in 1985, along with the percentages indicating work performed by the major building areas, is presented in Exhibit 10.6.

EXHIBIT 10.6
Percentage of Tenants Doing Renovation Work in 1985

	Number of Tenants	Percentage
Some type of renovation done	539	23.0
Type of Renovation done to dwelling:		
Interior	473	20.2
Mechanical Systems	310	13.3

Exhibit 10.7 presents a detailed list of the ten most frequently cited items (as percentages) for renovation work in 1985; first for repairs/replacements, next for improvements and finally for maintenance. Exhibit 10.8 presents a similar listing of the ten most frequently cited items for renovation by how the work was done, with breakdowns by whether the tenant paid a firm, paid for materials or paid for labour.

EXHIBIT 10.7
Ten Most Frequently Cited Items for Renovation in 1985 By Type of Renovation -- Tenants

Repairs/Replacements	Percentage
Plumbing fixtures	2.6
Plumbing pipes	2.1
Wall surfaces (paint and paper)	2.0
Carpentry - walls	1.7
Lighting fixtures	1.7
Drywall/plaster	1.6
Floor covering - carpeting	1.5
Door/window insulation	1.5
Carpentry - floors	1.4
Carpentry - shelves	1.4
Improvements	
Wall surfaces (paint and paper)	8.1
Carpentry - walls	3.4
Floor covering - carpeting	3.3
Carpentry - shelves	2.4
Carpentry - doors	2.0
Lighting fixtures	1.9
Door/window insulation	1.8
Carpentry - floors	1.8
Drywall/plaster	1.6
Plumbing fixtures	1.1
Electrical wiring	1.1
Maintenance	
Wall surfaces (paint and paper)	6.6
Carpentry - walls	2.7
Carpentry - floors	2.3
Floor covering - carpeting	2.2
Drywall/plaster	1.9
Carpentry - doors	1.7
Plumbing fixtures	1.6
Door/window insulation	1.6
Lighting fixtures	1.3
Plumbing pipes	1.3
Carpentry - shelves	1.3
Floor covering - tile	1.3

EXHIBIT 10.8
Ten Most Frequently Cited Items for Renovation in 1985 By How the Work was Completed -- Tenants

Paid a Firm	Percentage
Floor covering - carpeting	0.8
Hot water heater	0.6
Plumbing pipes	0.6
Wall surfaces (paint and paper)	0.5
Plumbing fixtures	0.4
Furnace/cooling unit	0.4
Electrical wiring	0.4
Lighting fixtures	0.3
Other mechanical renovation	0.3
Carpentry - floors	0.3
Floor covering - hardwood	0.3
Paid for Materials	
Wall surfaces (paint and paper)	12.0
Carpentry - walls	5.4
Floor covering - carpeting	4.7
Carpentry - doors	3.7
Carpentry - floors	3.6
Drywall/plaster	3.6
Door/window insulation	3.5
Lighting fixtures	3.5
Carpentry - shelves	3.5
Plumbing fixtures	3.3
Paid for Labour	
Wall surfaces (paint and paper)	2.3
Carpentry - walls	1.1
Plumbing pipes	1.1
Plumbing fixtures	1.0
Lighting fixtures	1.0
Carpentry - doors	1.0
Floor covering - carpeting	1.0
Carpentry - floors	0.9
Carpentry - shelves	0.9
Door/window insulation	0.8

The percentages of tenants who indicated that they intended to renovate particular building components were also calculated and ranked. The results are presented in Exhibit 10.9.

EXHIBIT 10.9
Intentions to Renovate -- Tenants

Area of Renovation	Percentage*
No plans to renovate	61.2
Walls	11.1
Doors and windows	9.4
Floors	8.9
Other areas	7.1
Carpentry	6.1
Plumbing	5.9
Insulation	4.8
Electrical	3.1
Heating/cooling	2.9

* Percentages sum to more than 100 per cent because respondents could select more than one item.

10.3 Landlords

The percentage of landlords indicating that they performed renovation work in 1985, along with the percentages indicating work performed by the major building areas, is presented in Exhibit 10.10.

EXHIBIT 10.10
Percentage of Landlords Doing Renovation Work in 1985

	Number of Landlords	Percentage
Some type of renovation done	481	60.0
Type of Renovation done to dwelling:		
Exterior	395	49.3
Interior	370	46.2
Mechanical Systems	357	44.6

Exhibit 10.11 presents a detailed list of the ten most frequently cited items (as percentages) for renovation work in 1985; first for repairs/replacements, next for improvements and finally for maintenance. Exhibit 10.12 presents a similar listing of the ten most frequently cited items for renovation by how the work was done, with breakdowns by whether the landlord paid a firm, paid for materials or paid for labour.

EXHIBIT 10.11
Ten Most Frequently Cited Items for Renovation in 1985 By Type of Renovation -- Landlords

Repairs/Replacements	Percentage
Steps/porches	9.3
Doors/windows	8.0
Hot water heater	7.4
Plumbing pipes	7.4
Sitework (driveway, planting, fencing)	7.0
Roof gutters and downspouts	6.8
Plumbing fixtures	6.8
Wall surface (paint and paper)	6.7
Roof coverings (e.g., shingles)	5.7
Drywall/plaster	5.6
Improvements	
Sitework (driveway, planting, fencing)	8.2
Wall surfaces (paint and paper)	8.1
Floor covering - carpeting	6.8
Carpentry - walls	5.7
Carpentry - floors	5.2
Drywall/plaster	5.2
Electrical wiring	4.7
Carpentry - shelves	4.6
Carpentry - doors	4.3
Lighting fixtures	4.0
Maintenance	
Wall surfaces (paint and paper)	19.3
Doors/windows	11.7
Sitework (driveway, planting, fencing)	10.8
Steps/porches	9.5
Floor covering - carpeting	9.3
Carpentry - walls	9.0
Drywall/plaster	9.0
Plumbing fixtures	8.5
Carpentry - doors	7.8
Plumbing pipes	7.6

EXHIBIT 10.12
Ten Most Frequently Cited Items for Renovation in 1985 By How the Work was Done -- Landlords

Paid a Firm	Percentage
Furnace/cooling unit	8.8
Floor covering - carpeting	8.5
Sitework (driveway, planting, fencing)	7.8
Wall surfaces (paint and paper)	7.5
Roof coverings (e.g., shingles)	7.4
Plumbing pipes	7.4
Hot water heater	7.0
Doors/windows	6.7
Roof gutters and downspouts	6.3
Plumbing fixtures	5.7
Paid for Materials	
Wall surface (paint and paper)	20.3
Sitework (driveway, planting, fencing)	11.8
Carpentry - walls	11.1
Steps/porches	10.8
Doors/windows	10.4
Drywall/plaster	10.4
Plumbing fixtures	9.5
Floor covering - tile	9.4
Floor covering - carpeting	8.9
Lighting fixtures	8.4
Paid for Labour	
Wall surfaces (paint and paper)	10.0
Sitework (driveway, planting, fencing)	7.0
Doors/windows	6.8
Drywall/plaster	6.3
Step/porches	6.2
Carpentry - walls	6.2
Carpentry - floors	6.1
Carpentry - doors	6.1
Floor covering - carpeting	6.0
Floor covering - tile	5.6

Respondents were asked to indicate the importance of a variety of reasons for renovating their building. These reasons were ranked according to the percentage of landlords who indicated that a given reason had some importance to them. Exhibit 10.13 presents the rankings and the corresponding percentages.

EXHIBIT 10.13
Reasons for Renovating -- Landlords

Reason	Percentage*
To look better inside	77.5
Other (unspecified) reasons for renovating	74.9
Less costly to maintain	72.5
To look better outside	72.0
Make building safer	70.3
Less costly to heat	63.3
Have a higher resale value	59.0
Meet health/safety regulations	53.6
Make building bigger	12.8
More accessible to handicapped	9.2

* Percentages indicate the porportion of respondents attributing some importance to each of these reasons on a series of seven point scales.

The percentages of landlords who indicated that they intended to renovate particular building components were also calculated and ranked. The results are presented in Exhibit 10.14.

EXHIBIT 10.14
Intentions to Renovate -- Landlords

Area of Renovation	Percentage*
No plans to renovate	32.4
Doors/windows	21.9
Walls (inside or outside)	21.7
Sitework	18.7
Roof, chimney	17.1
Flooring	16.5
Plumbing	13.7
Carpentry	12.5
Other areas	10.1
Insulation	9.0
Electrical	6.6
Heating/cooling	6.0

* Percentages sum to more than 100 per cent because respondents could select more than one item.

11.0 CONCLUSIONS

The results of the National Housing Survey are a confirmation of the conclusions about methodology drawn from the earlier Landlord Pilot and RDD-Test studies. With only minor exceptions, the combination of telephone interview sampling and mail survey methods produced high quality data from large and representative samples of homeowners, tenants and landlords. Furthermore, all survey objectives were met within the allocated cost for the project.

The random digit dialing (RDD) and telephone interview method was highly successful in generating a representative sample with mailing address information. In fact, we can not envisage any other method to complete such a task successfully on such a large scale. Additional research to complete the mailing lists for homeowners and tenants (e.g., postal codes) was not extensive. Response rates were high and the preliminary telephone contact to solicit participation also resulted in high response rates to the first questionnaire mailing.

A majority of tenants (i.e., over 60 per cent) did provide some information about their landlord that could be used to prepare a mailing list. However, a great deal of additional research and direct contacts were required to improve the quality of the landlord mailing list to an acceptable level. Upon completion of this work, the mailing list contained useable landlord addreses for well over one half of the tenants in the sample.

The mail survey method was also very effective in generating the required response. Much of this success can be attributed to the questionnaire design which had been developed and refined in previous studies. Follow-up procedures were also very important. Reminders, response incentives and follow-up questionnaires all contributed to the high response rates. The third questionnaire mailing and reminder did not produce a response that was as high as expected. This may have been partly because of the timing, with respondents receiving the questionnaires in early December, or it may have been because the telephone interviews encouraged a high early response. We believe that telephone interviews make a full third mailing unnecessary and would recommend the targetted mailing approach used in this survey for other projects of this nature.

The telephone hot-line was a relatively expensive option given the number of calls received (approximately 300). However, we believe that it had an intangible benefit by increasing the credibility of the project to everyone who received the questionnaire and would recommend a telephone call-in service for similar surveys.

The courier delivery of second wave questionnaires to landlords who did not respond to the first mailing was effective in producing the desired results. The response rates for the first two mailings were approximately equal. This is much different from the proportionate response for first and second mailings in most surveys, including the homeowner and tenant components of this survey, in which the second mailing typically generates an additional 50 per cent of the first wave returns.

Overall response rates, adjusted for the estimated number of ineligible respondents, substantially exceeded the targets for all three respondent types. The final samples are sufficiently large to permit inferences based on relatively precise estimates for homeowners and tenants and good estimates for landlords at the national level. Response rates to the request to allow a CMHC building expert to visit the dwelling were much higher than expected. The technical data from the resulting inspections will prove to be extremely valuable when linked with the survey sample data.

The sample is unbiased in most respects. Weighting procedures can be easily applied to correct for sample stratification. Partial response or item non-response is well documented and there are no serious or unexpected problems. It is very important, however, that care is taken in differentiating between not applicable and missing values when conducting further analyses of the data base. A miscalculation can easily result in improper estimates of renovation activity or expenditures.

Reliability tests for individual measures showed that there were no problems with regards to internal consistency. However, the summary measures of physical condition were not reliable. To improve reliability and validity, this data must be compared with the technical data collected by CMHC inspectors for a subsample of dwellings and adjustments made to correct for any systematic biases. In general, the results of the validity tests were highly satisfactory. Only two items showed test results that indicated a problem and these have been identified.

To summarise, this report presents a documentation of the methodology, the survey samples and the results of a wide array of data quality tests for this major national housing study. An extensive series of appendices supplement the information presented in the main body of the report. The report should serve as a useful reference when planning future surveys, as well as a source of vital information about the NHS data base. We believe that the results of the project are highly satisfactory and that the survey data base should be a key resource in housing and renovation research for years to come.

APPENDIX A.1
Survey Questionnaire with Marginals - Homeowner

APPENDIX A.2
Survey Questionnaire with Marginals - Tenant

APPENDIX A.3
Survey Questionnaire with Marginals - Landlord

NATIONAL HOUSING STUDY

July 1986

Dear Homeowner:

You may remember a telephone call a few weeks ago about a study of housing conditions and housing renovation activity in Canada. Ekos Research Associates has been hired by the Canada Mortgage and Housing Corporation (CMHC) to conduct this study. Now we would like a few minutes of your time to complete this questionnaire. Your views and opinions will assist the federal government by increasing our awareness about housing conditions facing Canadians today.

A small number of homeowners was chosen from across the country for this study by means of a scientific sampling process and therefore you represent a number of other homeowners. In order for the study results to represent the thinking of all Canadian homeowners, we would appreciate your taking a few moments to complete and return this questionnaire.

The survey form should be filled out by an adult household member who is responsible for or familiar with housing expenditures and decisions for your dwelling. Your answers will be kept **completely confidential**.

As promised, we are now in the process of mailing you a free copy of a CMHC publication offering useful tips and advice on increasing the security of your home.

When you have completed the form, please mail it to us in the postage-paid envelope as soon as possible -- this week if you can arrange it. If you have any questions about the survey please call Ekos Research in Ottawa **(collect)** at (613) 235-4475.

Thank you for your assistance in this important study.

Sincerely,

Joyce Potter
Executive Director
Operations Review Directorate
Canada Mortgage and Housing Corporation

Ce questionnaire est aussi disponible en français auprès de la firme Ekos, à Ottawa, au numéro de téléphone suivant: (613) 235-4475 (à frais virés).

GENERAL GUIDELINES FOR COMPLETING THIS QUESTIONNAIRE

All of the questions concern the dwelling you now live in. For the questions on renovation work, please include the work you completed between January 1st and December 31st, 1985 as well as work started then which was still underway at the end of that year.

The following examples show you the way to complete the four types of questions in this questionnaire.

1. The first type concerns characteristics of this dwelling and renovation work you did in 1985. Please indicate your reply by circling the number next to your answer. For example:

   Is there a complete kitchen within your dwelling, that is, a kitchen with a sink with piped water, a working refrigerator, and a range or stove?

   YES .... [✓ 1]
   NO 2

2. A number of questions ask you to give your opinion about the condition of your building or the quality of renovation work done by someone you hired. Please circle the number on the scale which best reflects your view. Note that the ends of the scales are the extreme condition ratings.

   Please rate the condition of the floors in your dwelling by circling the appropriate number on the scale.

BEYOND REPAIR	VERY POOR CONDITION	POOR CONDITION	MINIMUM ACCEPTABLE	GOOD CONDITION	VERY GOOD CONDITION	PERFECT CONDITION
1	2	3	4	[✓ 5]	6	7

3. Some questions require you to write a number in the spaces provided. Please enter only one digit in each box. For financial information provide approximate amounts, rounded to the nearest dollar. For example:

   For all the renovation work you undertook on your dwelling in 1985 please indicate the total amount you paid. (Please indicate $0 if you did no work).

   $ 1,500 .00

4. A few questions ask about situations that do not apply to certain owners. If they do not apply to you please check off the box as indicated.

   How satisfied were you with the firm/worker you hired?

   ☑ NO ONE HIRED

THIS FIRST SECTION DEALS WITH THE MAJOR FEATURES OF YOUR DWELLING.

1. **What type of building is this?**

SINGLE DETACHED HOUSE 1 88.1%
OTHER, duplex, row, apartment
(Please specify)________________.. 2 11.9% n = 8820

2.a) **How many rooms are there in your dwelling?** (Include kitchen, living/dining rooms, bedrooms and any finished attic or basement rooms. Do not count bathrooms, halls, vestibules, unfinished rooms and rooms used solely for business purposes.)

NUMBER OF ROOMS ☐☐

$\bar{x}$ = 6.91
s = 2.04
n = 8908

b) **How many bedrooms are there in your dwelling** (i.e., those rooms used regularly for sleeping)?

NUMBER OF BEDROOMS ☐☐

$\bar{x}$ = 3.13
s = 1.11
n = 8942

3.a) **How many complete bathrooms does your dwelling have?** (A complete bathroom is a room with a flush toilet, bathtub or shower, and a washbasin with piped water.)

NUMBER OF COMPLETE BATHROOMS ☐

$\bar{x}$ = 1.34
s = 0.58
n = 8920

b) **How many half bathrooms does your dwelling have?** (A half bathroom is a room with a flush toilet and a washbasin with piped water or a room with a bathtub or shower.)

NUMBER OF HALF BATHROOMS ☐

$\bar{x}$ = 0.54
s = 0.66
n = 7957

4. **Is there a complete kitchen within your dwelling, that is, a kitchen with a sink with piped water, a working refrigerator, and a range or stove?**

YES 1 99.4%
NO .... 2 0.6% n = 8928

5. **What is the principal fuel used for heating this dwelling?** (Circle the appropriate number. If you use a second fuel at least one third of the time, circle one number in the second column.)

	PRINCIPAL FUEL		SECONDARY FUEL	
OIL OR KEROSENE	1	21.9%	1	17.6%
PIPED GAS (e.g., natural gas)	2	38.8%	2	2.0%
BOTTLED GAS (e.g., propane)	3	0.9%	3	1.5%
ELECTRICITY	4	24.9%	4	23.1%
COAL OR COKE	5	0.4%	5	0.7%
WOOD	6	12.5%	6	54.1%
OTHER (Please specify) ____________	7	0.5%	7	1.1%
		n = 8696		n = 3075

6. **What is the principal type of heating equipment for this dwelling?** (Circle the appropriate number. If at least one third of the heating is provided by a second type of equipment, circle one number in the second column.)

	PRINCIPAL HEATING EQUIPMENT		SECONDARY HEATING EQUIPMENT	
FORCED HOT AIR FURNACE	1	59.7%	1	11.8%
STEAM OR HOT WATER BOILER	2	9.1%	2	1.8%
SPACE HEATER (e.g., oil or electric)	3	2.2%	3	5.1%
ELECTRIC BASEBOARD HEATING	4	18.1%	4	18.1%
COOKING STOVE, RANGE, OR HEATING STOVE	5	0.9%	5	3.3%
WOODSTOVE	6	7.9%	6	49.6%
OTHER (Please specify) ____________	7	2.1%	7	10.2%
		n = 8528		n = 2625

NEXT ARE SOME QUESTIONS TO HELP US OBTAIN A DESCRIPTION OF THE CONDITION OF YOUR DWELLING.

7. **To the best of your knowledge approximately when was this dwelling originally built?**

| 1 | | | |

$\bar{x}$ = 1957.36
s = 35.64
n = 8549

8. **How long have the people who usually live together here, been in this dwelling?** Please circle the appropriate number.

LESS THAN ONE YEAR	1	5.5%	
ONE TO TWO YEARS	2	8.5%	
TWO TO FIVE YEARS	3	18.7%	n = 8815
FIVE TO TEN YEARS	4	23.4%	
TEN TO TWENTY YEARS	5	23.4%	
MORE THAN TWENTY YEARS	6	20.5%	

9. **Has this dwelling been recognised, listed or registered as a potential heritage property, or designated as a heritage property by the local, regional, provincial or federal government?**

YES	1	2.0%	
NO	2	98.0%	n = 7989

10. **Is this dwelling in need of any "repairs"?** Do not include desirable remodelling, additions, conversions or energy improvements. Select one category only by circling the number corresponding to the appropriate answer.

YES, MAJOR REPAIRS ARE NEEDED (to correct, for example, corroded pipes, damaged electrical wiring, sagging floors, bulging walls, damp walls and ceilings, crumbling foundation, rotting porches and steps)	1	9.5%
YES, MINOR REPAIRS ARE NEEDED (to correct, for example, small cracks in interior walls and ceilings, broken light fixtures and switches, leaking sink, cracked or broken window panes, some missing shingles or siding, some peeling paint)	2	21.4%
NO, ONLY REGULAR MAINTENANCE IS NEEDED (for example, painting, leaking faucets, clogged gutters or eavestrough)	3	69.2%

n = 8662

11. **How many times last winter was there a breakdown in your heating equipment; that is, how many times was it completely unusable?** (Do not include running out of fuel, power failure, or other external factors. Circle the appropriate number.)

NEVER	1	90.1%	
ONCE	2	8.3%	n = 8690
MORE THAN ONCE	3	1.6%	

12. **How many times in the past 6 months have any of your water pipes or other parts of your plumbing hardware (e.g., toilet, sink, etc.) leaked so badly that you had to mop the water up or place a bucket below the leak?** (Circle the appropriate number.)

NEVER	1	84.3%	
ONCE	2	11.0%	n = 8782
MORE THAN ONCE	3	4.7%	

THE FOLLOWING QUESTIONS DEAL WITH THE CONDITION OF YOUR DWELLING AND ANY RENOVATION WORK THAT YOU MIGHT HAVE DONE.

13.a) **Please rate the dwelling's general physical condition by circling the appropriate number on each of the following scales. If you are unsure about the condition rating please circle number 9.**

	BEYOND REPAIR			MINIMUM ACCEPTABLE			PERFECT CONDITION	$\bar{x}$	n
Sitework (e.g., driveway, plantings, fencing)	1	2	3	4	5	6	7		
	0.5	1.4	7.0	20.5	27.0	24.3	19.2	5.218	8334
Outside Walls	1	2	3	4	5	6	7		
	0.3	0.9	3.7	10.1	18.1	28.0	38.9	5.844	8086
Roof (e.g., gutters, downspouts, shingles)	1	2	3	4	5	6	7		
	1.0	2.2	6.8	11.7	16.6	25.3	36.5	5.626	8496
Chimney	1	2	3	4	5	6	7		
	0.7	1.0	3.3	7.9	14.4	26.6	46.0	5.982	7711
Doors, Windows	1	2	3	4	5	6	7		
	1.0	2.0	7.2	13.6	20.1	26.3	29.9	5.482	8594
Attached Structures (e.g., steps, porches)	1	2	3	4	5	6	7		
	1.1	2.2	5.7	11.5	18.7	26.0	34.7	5.613	8381
Finished Carpentry (e.g., doors, shelves, cabinets)	1	2	3	4	5	6	7		
	0.4	1.1	4.4	10.9	20.7	30.1	32.3	5.699	8517
Flooring (e.g., hardwood, carpet, tile)	1	2	3	4	5	6	7		
	0.7	1.5	5.0	11.9	21.3	29.0	30.6	5.609	8540
Drywall/Plaster	1	2	3	4	5	6	7		
	0.4	0.8	3.7	9.8	19.4	32.2	33.7	5.781	8004
Wall Surfaces (e.g., paint, paper, tiling)	1	2	3	4	5	6	7		
	0.4	1.1	4.4	10.8	21.7	31.8	29.8	5.670	8538
Electrical (e.g., lighting fixtures, wiring etc.)	1	2	3	4	5	6	7		
	0.3	0.9	2.9	7.5	14.2	27.6	46.5	6.034	8525
Heating/Cooling (e.g., furance, baseboard radiators, fireplace, ductwork)	1	2	3	4	5	6	7		
	0.3	0.5	2.1	6.1	14.1	29.6	47.3	6.114	8421
Plumbing (e.g., pipes, fixtures)	1	2	3	4	5	6	7		
	0.4	0.9	2.9	7.7	17.1	29.9	41.0	5.942	8520
Insulation (e.g., attic, walls, doors, windows)	1	2	3	4	5	6	7		
	0.7	2.7	6.3	12.3	18.5	25.9	33.6	5.574	8451
Other (Please specify)	1	2	3	4	5	6	7		
	9.2	13.6	14.0	13.8	7.6	10.3	31.5	4.540	435

b) **Different homeowners do varying amounts and types of renovation work during a year. In 1985, did you do any maintenance, repairs or improvements?**

YES 1 50.0%

NO WORK DONE .... 2 50.0% n = 8583

c) **If you did not do any renovation work on this building in 1985, please indicate why.** (Circle all the reasons that apply.)

			n
NO RENOVATION WORK WAS NEEDED	01	22.5%	2020
OTHER BUSINESS WAS MORE IMPORTANT	02	6.5%	583
RENOVATION COMPANIES/WORKERS WERE TOO BUSY	03	0.4%	36
TOO MUCH GOVERNMENT RED TAPE	04	0.6%	54
PROPERTY TAXES MIGHT INCREASE	05	1.7%	154
RENOVATION WORK WOULD COST TOO MUCH:	06	9.7%	870
INTEREST RATES TOO HIGH	07	1.1%	98
LOAN TERMS UNSUITABLE	08	0.4%	32
LOAN REQUEST TURNED DOWN	09	0.3%	30
OTHER REASON(S) (Please specify) ________________ ____	10	7.0%	625

In Question 14 we are asking you about the renovation work you have done in 1985. The question lists a number of building items. For each item we want to know if you have done any work in 1985 and how that work was done. If you have done renovation work for any of the items listed, please circle the number(s) that apply in both the left and right columns. The numbered choices are explained at the bottom of the page. Part (a) of the question deals with the exterior of the building, part (b) with the interior of the building, and part (c) deals with the mechanical systems.

14.a)	EXTERIOR OF BUILDING					
	WORK DONE IN 1985			HOW WORK DONE		
Sitework (Driveway/planting/fencing)	1	2	3	1	2	3
	4.8%	11.9%	8.2%	4.1%	17.9%	2.3%
Outside Walls Structural	1	2	3	1	2	3
	1.8%	2.8%	4.1%	1.4%	6.1%	1.0%
Wall Finish Wood	1	2	3	1	2	3
	1.2%	2.0%	5.3%	0.9%	6.6%	1.0%
Other	1	2	3	1	2	3
	1.2%	2.1%	2.7%	1.6%	3.5%	1.0%
Roof Gutters, downspouts	1	2	3	1	2	3
	4.3%	2.8%	4.5%	3.5%	6.1%	1.2%
Roof Covering (e.g., shingles) .	1	2	3	1	2	3
	4.5%	1.5%	3.4%	3.2%	4.7%	1.3%
Chimney	1	2	3	1	2	3
	2.6%	1.3%	2.9%	2.0%	3.4%	1.1%
Doors/Windows	1	2	3	1	2	3
	5.3%	5.8%	5.6%	4.3%	10.0%	2.3%
Steps/Porches	1	2	3	1	2	3
	4.9%	5.5%	5.5%	1.9%	11.5%	2.1%

WORK DONE IN 1985

1. Repairs, Replacements:	work done to improve physical safety or soundness by fixing or replacing weak, worn out or damaged parts of a building.
2. Improvements:	work done to upgrade or modernize a building.
3. Maintenance:	work done to keep a building in its current physical condition.

HOW WORK DONE

1. Paid a firm:	you paid a firm or contractor who supplied the materials and labour.
2. Paid for materials:	you purchased the materials yourself.
3. Paid for labour:	you hired the labour yourself.

b)

	INTERIOR OF BUILDING					
	WORK DONE IN 1985			HOW WORK DONE		
Carpentry						
Floors	1 2.4%	2 5.7%	3 2.4%	1 1.6%	2 7.3%	3 1.6%
Walls	1 2.1%	2 9.2%	3 3.4%	1 1.4%	2 11.4%	3 1.8%
Doors	1 1.6%	2 5.1%	3 2.4%	1 1.0%	2 6.8%	3 1.2%
Shelves/cabinets	1 1.4%	2 7.0%	3 2.1%	1 1.7%	2 7.3%	3 1.5%
Drywall/plaster	1 2.2%	2 7.1%	3 2.8%	1 1.6%	2 8.9%	3 1.7%
Wall Surfaces (paint, paper)	1 2.9%	2 13.2%	3 10.2%	1 1.4%	2 21.5%	3 2.7%
Floor Covering						
Hardwood	1 0.6%	2 1.9%	3 1.2%	1 0.6%	2 2.6%	3 0.7%
Carpet	1 2.7%	2 7.7%	3 2.9%	1 4.2%	2 7.0%	3 2.1%
Tile	1 1.9%	2 4.8%	3 1.8%	1 1.8%	2 5.3%	3 1.2%

WORK DONE IN 1985

1. Repairs, Replacements: work done to improve physical safety or soundness by fixing or replacing weak, worn out or damaged parts of a building.
2. Improvements: work done to upgrade or modernize a building.
3. Maintenance: work done to keep a building in its current physical condition.

HOW WORK DONE

1. Paid a firm: you paid a firm or contractor who supplied the materials and labour.
2. Paid for materials: you purchased the materials yourself.
3. Paid for labour: you hired the labour yourself.

c)

	MECHANICAL SYSTEMS					
	WORK DONE IN 1985			HOW WORK DONE		
Electrical						
Lighting fixtures	1 2.3%	2 7.9%	3 1.9%	1 1.8%	2 8.7%	3 1.5%
Wiring	1 2.4%	2 6.4%	3 1.5%	1 3.0%	2 5.4%	3 1.7%
Heating/Cooling						
Furnace/cooling unit	1 3.2%	2 1.8%	3 2.8%	1 4.0%	2 2.3%	3 1.0%
Fireplace, wood stove	1 1.0%	2 1.8%	3 1.7%	1 0.9%	2 2.9%	3 0.5%
Ductwork, pipes	1 0.7%	2 1.3%	3 1.3%	1 0.9%	2 1.9%	3 0.4%
Plumbing						
Pipes	1 2.8%	2 3.8%	3 2.1%	1 2.2%	2 5.1%	3 1.1%
Fixtures (sink etc.)	1 3.6%	2 4.5%	3 2.6%	1 2.1%	2 7.1%	3 1.5%
Hot water heater	1 3.1%	2 1.2%	3 1.6%	1 2.0%	2 2.7%	3 0.7%
Insulation						
Attic insulation	1 1.4%	2 3.4%	3 1.2%	1 2.2%	2 2.9%	3 0.4%
Wall insulation	1 1.2%	2 3.6%	3 0.9%	1 1.0%	2 4.0%	3 0.5%
Doors, Windows	1 2.3%	2 3.7%	3 2.1%	1 1.6%	2 5.3%	3 0.9%
Other (Please specify) ________ ____________________________...	1 0.6%	2 1.1%	3 0.2%	1 0.6%	2 1.2%	3 0.2%

WORK DONE IN 1985

1. Repairs, Replacements:	work done to improve physical safety or soundness by fixing or replacing weak, worn out or damaged parts of a building.
2. Improvements:	work done to upgrade or modernize a building.
3. Maintenance:	work done to keep a building in its current physical condition.

HOW WORK DONE

1. Paid a firm:	you paid a firm or contractor who supplied the materials and labour.
2. Paid for materials:	you purchased the materials yourself.
3. Paid for labour:	you hired the labour yourself.

14.d) **Did you add any space or rooms to this building in 1985?**

YES 1 11.5%
NO .... 2 88.5% n = 4435

e) **Did you convert this building from a non-housing to a housing use in 1985?**

YES 1 0.8%
NO .... 2 99.2% n = 4339

15. **For all of the renovation work you undertook on your dwelling in 1985 (as listed in Question 14) please indicate the total amounts you paid for each of the following:** (Please indicate $0 if you did no work.)

FIRMS YOU PAID WHICH SUPPLIED LABOUR AND MATERIALS	$ ☐☐☐,☐☐☐☐ .00	$\bar{x}$ = $3147.18 s = $5802.73 n = 2117
MATERIALS YOU PAID FOR DIRECTLY	$ ☐☐☐,☐☐☐☐ .00	$\bar{x}$ = $1580.05 s = $2911.05 n = 3386
WORKERS YOU PAID DIRECTLY	$ ☐☐☐,☐☐☐☐ .00	$\bar{x}$ = $856.17 s = $1644.12 n = 1036
TOTAL COST	$ ☐☐☐,☐☐☐☐ .00	$\bar{x}$ = $3313.13 s = $6037.86 n = 3547

16. **How useful was each of these information sources to you when undertaking the renovation work on this dwelling in 1985? When answering, consider the usefulness for identifying problems, choosing a solution and completing the work.**

	NOT AT ALL USEFUL 1	2	3	SOMEWHAT USEFUL 4	5	6	EXTREMELY USEFUL 7	$\bar{x}$	n
Training Courses	46.5	5.1	6.9	13.6	6.3	7.2	14.6	3.079	671
Pamphlets, written material	8.8	3.0	9.1	30.8	18.2	14.2	15.9	4.528	1896
Personal Experience	1.4	0.7	2.2	11.6	13.2	21.9	49.0	5.963	3336
Word-of-mouth	4.4	2.5	7.3	23.9	21.1	20.5	20.3	4.975	2443
Professional Advice	5.8	2.2	5.9	16.8	16.8	23.0	29.5	5.235	1999

17. **How satisfied were you with the following aspects of the last renovation job done in 1985 by the firm/worker you hired?** (If you did not hire anyone to do renovation work in 1985, please check the box and skip to Question 18.)

☐ NO ONE HIRED 18.8% n = 1685

	EXTREMELY DISSATISFIED						EXTREMELY SATISFIED	$\bar{x}$	n
The quality of workmanship	1	2	3	4	5	6	7		
	3.1	1.6	3.1	9.2	18.9	32.2	32.0	5.637	2437
The quality of materials used ...	1	2	3	4	5	6	7		
	1.4	1.5	1.8	6.4	17.3	33.8	37.7	5.891	2358
The time it took to complete the work	1	2	3	4	5	6	7		
	3.4	2.8	4.6	8.6	15.3	28.5	36.8	5.625	2335

THE TYPE OF JOB DONE LAST IN 1985 WAS: ______________________________

____

18. **Which of the following financing methods did you use to pay for the renovation work you did in 1985?** Please circle the appropriate number(s).

	YES		n
PERSONAL SOURCES (savings, income).......	1	44.3%	3979
LOAN FROM A BANK OR LENDING INSTITUTION .	1	4.6%	413
MORTGAGE	1	1.1%	101
LOAN FROM A FRIEND OR RELATIVE	1	1.4%	130
RESIDENTIAL REHABILITATION ASSISTANCE PROGRAM (RRAP)	1	0.8%	75
CANADIAN OIL SUBSTITUTION PROGRAM (COSP).	1	1.1%	103
CANADIAN HOME INSULATION PROGRAM (CHIP) .	1	2.6%	231
OTHER FEDERAL GOVERNMENT PROGRAM (Please specify) ____________________ .	1	0.3%	31
OTHER GOVERNMENT PROGRAM (provincial, municipal, please specify) ____________ ______________________________ ...	1	0.8%	68
OTHER (Please specify) ______________ ______________________________ ...	1	1.0%	88

IN THIS SECTION WE WANT TO ASK ABOUT YOUR REASONS FOR RENOVATING AND YOUR PLANS TO RENOVATE IN THE FUTURE.

19. **Please rate the importance of the following reasons for making your decision to renovate in 1985. Did you undertake the renovation work as you indicated in Question 14 to make your building:**

	NOT AT ALL IMPORTANT						VERY IMPORTANT	$\bar{x}$	n
Look better:	1	2	3	4	5	6	7		
Outside	7.7	1.6	3.1	8.8	17.4	23.5	37.9	5.485	3124
Inside	5.9	1.0	2.0	7.3	14.9	27.5	41.4	5.727	3126
Have a higher resale value	17.1	4.5	6.0	11.8	14.9	16.8	28.9	4.690	2865
Safer	18.5	4.8	5.2	10.9	11.6	14.5	34.4	4.734	2661
Less costly to:									
Heat	20.0	2.9	2.5	6.6	11.2	15.8	40.9	4.971	2729
Maintain	18.9	3.0	3.4	9.8	12.7	18.3	33.9	4.848	2447
Bigger	56.3	4.8	4.5	7.1	6.1	6.2	15.1	2.810	2042
More accessible to the handicapped	79.4	5.6	4.0	4.2	2.0	1.8	3.1	1.613	1893
Meet health, safety regulations	51.3	4.0	3.2	7.2	6.4	8.6	19.2	3.163	2035
Other (Please specify) _______	30.2	0.2	0.0	2.1	3.8	14.4	49.2	4.894	526

20.a) **Sometimes it is possible to plan ahead for doing renovation work while other times it must be done as the need arises. To the best of your knowledge, in which of the following areas will you do work in 1987?** (Circle all that apply.)

			n
SITEWORK	01	27.1%	2427
WALLS (inside or outside)	02	26.1%	2346
ROOF, CHIMNEY	03	16.8%	1510
DOORS AND WINDOWS	04	23.3%	2092
CARPENTRY	05	15.3%	1377
FLOORING	06	18.7%	1674
ELECTRICAL	07	8.1%	725
HEATING/COOLING	08	6.0%	534
PLUMBING	09	10.3%	925
INSULATION	10	11.2%	1003
OTHER (Please specify) _______	11	9.0%	805
NO PLANS TO RENOVATE	12	26.2%	2347

b) How much do you plan to spend on this work in 1987?

$ ☐☐☐☐,☐☐☐☐.00

$\bar{x}$ = $3378.87
s = $13148.48
n = 5012

NEXT WE WANT TO ASK SOME GENERAL QUESTIONS ABOUT YOUR NEIGHBOURHOOD.

21. **How would you rate the present quality of facilities and services (e.g. parks, schools, shopping, day care, etc.) in the neighbourhood of this dwelling?**

TERRIBLE			AVERAGE			EXCELLENT
1	2	3	4	5	6	7
3.5	3.2	5.7	27.9	19.0	20.3	20.4

$\bar{x}$ = 4.981
n = 8587

22. **How would you rate the quality of facilities and services in this neighbourhood five years ago, or if you purchased this property within the last five years, at the time you purchased it?**

TERRIBLE			AVERAGE			EXCELLENT
1	2	3	4	5	6	7
4.2	4.1	8.7	29.9	19.8	17.3	16.0

$\bar{x}$ = 4.729
n = 8211

FINALLY, WE NEED SOME BASIC INFORMATION ABOUT THE CHARACTERISTICS OF YOUR HOUSEHOLD. AS WITH ALL OF THE PREVIOUS DATA GATHERED, THIS INFORMATION WILL BE KEPT STRICTLY CONFIDENTIAL AND WILL BE USED ONLY FOR STATISTICAL ANALYSIS.

23.a) **Please identify the age and relationship to you of each person who lives in this dwelling.**

			RELATION TO YOU (Circle one number only)				
PERSON	$\bar{x}$ AGE	n	SPOUSE	CHILD	PARENT	OTHER	
1. YOURSELF	45.49 yrs.	8690	-	-	-	-	n
2. PERSON 2	42.26 yrs.	8199	1 88.3%	2 5.3%	3 2.6%	4 3.8%	8198
3. PERSON 3	15.48 yrs.	5801	1 0.3%	2 92.6%	3 3.7%	4 3.4%	5800
4. PERSON 4	11.94 yrs.	3978	1 0.2%	2 92.9%	3 1.8%	4 5.1%	3978
5. PERSON 5	12.70 yrs.	1565	1 0.4%	2 86.6%	3 3.9%	4 9.1%	1565
6. PERSON 6	14.32 yrs.	465	1 0.4%	2 78.9%	3 5.6%	4 15.1%	465
7. PERSON 7	15.97 yrs.	143	1 0.7%	2 67.1%	3 5.6%	4 26.6%	143
8. PERSON 8	17.93 yrs.	44	1 0.0%	2 56.8%	3 9.1%	4 34.1%	44

b) **Which of the following types best describes your household?** (Circle one number only.)

i)	ONE PERSON, LIVING ALONE	1	7.4%	
ii)	ONE ADULT WITH CHILDREN	2	4.3%	
iii)	A MARRIED OR COMMON-LAW COUPLE, WITHOUT CHILDREN	3	23.1%	
iv)	A MARRIED OR COMMON-LAW COUPLE, WITH CHILDREN	4	60.8%	n = 8690
v)	TWO OR MORE UNRELATED PERSONS	5	0.9%	
vi)	OTHER (please specify) ____________________	6	3.5%	

24. **Does any member of this household have any physical disability that requires the use of special physical structures or facilities in or around this dwelling (e.g., accessibility to dwelling and major rooms by wheelchair, grab bars, kitchen modifications, electronic intercoms, etc.)?** Please circle the appropriate number.

NO	1	97.4%	
YES, and changes to this dwelling would be desirable	2	1.3%	
YES, but the dwelling is well designed and incorporates satisfactory features	3	0.6%	
YES, but the dwelling has already been modified and is now satisfactory	4	0.7%	n=8697

25. **What is the highest level of formal education which you (and your spouse, if married) have achieved?**

	YOU		YOUR SPOUSE	
NO SPOUSE			0	6.9%
PRIMARY SCHOOL	1	12.4%	1	13.1%
HIGH SCHOOL	2	43.2%	2	45.2%
SOME COMMUNITY COLLEGE	3	9.5%	3	8.4%
COMMUNITY COLLEGE GRADUATE	4	9.9%	4	8.8%
SOME UNIVERSITY	5	9.0%	5	6.1%
UNIVERSITY GRADUATE	6	10.4%	6	8.0%
POST GRADUATE	7	5.5%	7	3.6%
	n=8477		n=7711	

26. **Regarding your ethnic or cultural background, do you consider yourself a Canadian native Indian, Métis, or Inuit?**

YES	1	11.7%	
NO	2	88.3%	n=8383

27. **Which of these occupational groups comes closest to describing your current occupation (or former, if retired) and that of your spouse?**

	YOU		YOUR SPOUSE	
NO SPOUSE			0	8.3%
FARMING, FISHING, FORESTRY, LOGGING, MINING AND QUARRYING OCCUPATIONS	1	6.3%	1	5.3%
LABOURER	2	6.8%	2	7.4%
SEMI-SKILLED	3	5.9%	3	4.8%
SKILLED TRADESMAN	4	12.1%	4	8.5%
SALES, SERVICE, CLERICAL	5	14.9%	5	14.8%
PROFESSIONAL	6	18.1%	6	13.0%
MANAGERIAL OR ADMINISTRATIVE	7	14.2%	7	8.0%
HOMEMAKER	8	15.7%	8	25.7%
OTHER (Please specify) ________________ ..	9	5.9%	9	4.3%
		n=8310		n=7600

28. **Which of the following categories best describes the employment status of you and your spouse in 1985?**

	YOU		YOUR SPOUSE	
NO SPOUSE			0	8.1%
SELF EMPLOYED	1	12.3%	1	11.3%
FULL-TIME EMPLOYEE	2	47.8%	2	37.6%
PART-TIME EMPLOYEE	3	11.8%	3	14.6%
UNEMPLOYED	4	7.0%	4	10.0%
FULL-TIME STUDENT	5	0.7%	5	0.5%
RETIRED	6	16.2%	6	11.3%
OTHER (Please specify) ________________ .	9	4.1%	9	6.5%
		n=8390		n=7551

29. **Is there a mortgage outstanding on your building?**

YES	1	53.2%	
NO	2	46.8%	n=8633

30. **What is the approximate amount of the principal outstanding on the mortgage(s)?**

MORTGAGE PRINCIPAL .... $ |__|__|__|,|__|__|__|.00

$\bar{x}$=$34,519.33
s=$32,053.11
n=4351

31. **What is your regular payment, excluding property taxes?**

MORTGAGE PAYMENT .... $ |__|__|,|__|__|__|.00

$\bar{x}$=$705.04
s=$2945.59
n=4450

32. **How often is this payment made?**

ONCE A WEEK 1 6.6%
ONCE A MONTH 2 86.5%
OTHER (Please specify) .... 3 6.9% n=4552

33. **What were the approximate total annual property taxes for your dwelling in 1985?** (Include the municipal, school, water and any special real estate taxes.)

$ ☐☐ ,☐☐☐ .00 $\bar{x}=\$1327.96$
$s=\$4058.90$
$n=8250$

34. **What was the approximate total annual cost for utilities** (heat, light and water) **for your dwelling in 1985?**

$ ☐☐ ,☐☐☐ .00 $\bar{x}=\$1689.82$
$s=\$3120.47$
$n=8052$

35. **If you were to sell your dwelling now, for how much would you expect to sell it?**

$ ☐☐☐ ,☐☐☐ .00 $\bar{x}=\$82,120.19$
$s=\$60,412.36$
$n=8125$

36.a) **Considering all sources, what was your approximate total household income in 1985?**

$ ☐☐☐ ,☐☐☐ .00 $\bar{x}=\$38,006.35$
$s=\$29,661.11$
$n=7287$

b) **If you do not know your total household income for 1985, please tell us your total household income for the last month.**

$ ☐☐ ,☐☐☐ .00 $\bar{x}=\$3560.09$
$s=\$9570.80$
$n=1176$

37. **Please note here any other comments you wish to make which you think may be of interest to our study.**

____

____

____

____

To complete this study, the Canada Mortgage and Housing Corporation (CMHC) wants to visit a variety of dwellings to observe physical housing conditions and to view any renovations done in 1985. This would only take a short time and would be arranged by a CMHC building expert at a time convenient for you. The information collected will be kept strictly confidential.

In appreciation of your time, we will be pleased to provide you with a copy of a CMHC housing publication on maintenance and repair.

PLEASE CHECK YES OR NO TO INDICATE YOUR INTEREST.

33.2% **YES**, telephone me so we can discuss a possible visit by a CMHC building expert.

Telephone Number: (   ) ____________________
(area code)

66.8% **NO**, I am not interested in having a CMHC building expert visit my dwelling to observe its physical condition.

n=8489

THANK YOU VERY MUCH FOR YOUR COOPERATION IN COMPLETING THIS QUESTIONNAIRE.

NATIONAL HOUSING STUDY

July 1986

Dear Tenant:

You may remember a telephone call a few weeks ago about a study of housing conditions and housing renovation activity in Canada. Ekos Research Associates has been hired by the Canada Mortgage and Housing Corporation (CMHC) to conduct this study. Now we would like a few minutes of your time to complete this questionnaire. Your views and opinions will assist the federal government by increasing our awareness about housing conditions facing Canadians today.

A small number of tenants were chosen from across the country for this study by means of a scientific sampling process and therefore you represent a number of other renters. In order for the study results to represent the thinking of all Canadian tenants, we would appreciate your taking a few moments to complete and return this questionnaire.

The survey form should be filled out by an adult household member who is responsible for or familiar with housing expenditures and decisions for your dwelling unit. Your answers will be kept **completely confidential.**

As promised, we are now in the process of mailing you a free copy of a CMHC publication offering useful tips and advice on increasing the security of your dwelling.

When you have completed the form, please mail it to us in the postage paid envelope as soon as possible -- this week if you can arrange it. If you have any questions about the survey please call Ekos Research in Ottawa **(collect)** at (613) 235-4475.

Thank you for your assistance in this important study.

Sincerely,

Joyce Potter
Executive Director
Operations Review Directorate
Canada Mortgage and Housing Corporation

Ce questionnaire est aussi disponible en français auprès de la firme Ekos, à Ottawa, au numéro de téléphone suivant: (613) 235-4475 (à frais virés).

GENERAL GUIDELINES FOR COMPLETING THIS QUESTIONNAIRE

All of the questions concern the dwelling you now live in. For the questions on renovation work, please include the work you completed between January 1st and December 31st, 1985 as well as work started then which was still underway at the end of that year.

The following examples show you the way to complete the four types of questions in this questionnaire.

1. The first type concerns characteristics of this rental building and renovation work you did in 1985. Please indicate your reply by circling the number next to your answer. For example:

   Is there a complete kitchen within your dwelling, that is, a kitchen with a sink with piped water, a working refrigerator, and a range or stove?

   YES .... [✓ 1]
   NO 2

2. A number of questions ask you to give your opinion about the condition of your building or the quality of renovation work done by someone you hired. Please circle the number on the scale which best reflects your view. Note that the ends of the scales are the extreme condition ratings.

   Please rate the condition of the floors in your dwelling by circling the appropriate number on the scale.

BEYOND REPAIR	VERY POOR CONDITION	POOR CONDITION	MINIMUM ACCEPTABLE	GOOD CONDITION	VERY GOOD CONDITION	PERFECT CONDITION
1	2	3	4	[✓ 5]	6	7

3. Some questions require you to write a number in the spaces provided. Please enter only one digit in each box. For financial information provide approximate amounts, rounded to the nearest dollar. For example:

   For all the renovation work you undertook on your dwelling in 1985 please indicate the total amount you paid. (Please indicate $0 if you did no work).

   $ 1,500.00

4. A few questions ask about situations that do not apply to certain tenants. If they do not apply to you please check off the box as indicated.

   How satisfied were you with the firm/worker you hired?

   ☑ NO ONE HIRED

THIS FIRST SECTION DEALS WITH THE MAJOR FEATURES OF YOUR DWELLING.

1.a) **How many rooms are there in your dwelling?** (Include kitchen, living/dining rooms, bedrooms and any finished attic or basement rooms. Do not count bathrooms, halls, vestibules, unfinished rooms and rooms used solely for business purposes.)

NUMBER OF ROOMS ☐☐ $\bar{x}$=4.80
s=1.73
n=2546

b) **How many bedrooms are there in your dwelling** (i.e., those rooms used regularly for sleeping)?

NUMBER OF BEDROOMS ☐☐ $\bar{x}$=2.12
s=0.97
n=2545

2.a) **How many complete bathrooms does your dwelling have?** (A complete bathroom is a room with a flush toilet, bathtub or shower, and a washbasin with piped water.)

NUMBER OF COMPLETE BATHROOMS ☐ $\bar{x}$=1.06
s=0.29
n=2543

b) **How many half bathrooms does your dwelling have?** (A half bathroom is a room with a flush toilet and a washbasin with piped water or a room with a bathtub or shower.)

NUMBER OF HALF BATHROOMS ☐ $\bar{x}$=0.31
s=0.51
n=2279

3. **Is there a complete kitchen within your dwelling, that is, a kitchen with a sink with piped water, a working refrigerator, and a range or stove?**

YES 1 99.0%
NO .... 2 1.0% n=2532

NEXT ARE SOME QUESTIONS TO HELP US OBTAIN A DESCRIPTION OF THE CONDITION OF YOUR DWELLING.

4. **How long have the people who usually live together here, been in this dwelling?** Please circle the appropriate number.

LESS THAN ONE YEAR 1 23.1%
ONE TO TWO YEARS 2 25.5%
TWO TO FIVE YEARS 3 28.5%
FIVE TO TEN YEARS 4 12.9%
TEN TO TWENTY YEARS 5 6.9%
MORE THAN TWENTY YEARS 6 3.1%
n=2524

5. **Is this dwelling in need of any "repairs"?** Do not include desirable remodelling, additions, conversions or energy improvements. Select one category only by circling the number corresponding to the appropriate answer.

YES, MAJOR REPAIRS ARE NEEDED (to correct, for example, corroded pipes, damaged electrical wiring, sagging floors, bulging walls, damp walls and ceilings, crumbling foundation, rotting porches and steps) 1 12.2%

YES, MINOR REPAIRS ARE NEEDED (to correct, for example, small cracks in interior walls and ceilings, broken light fixtures and switches, leaking sink, cracked or broken window panes, some missing shingles or siding, some peeling paint) 2 32.8%

NO, ONLY REGULAR MAINTENANCE IS NEEDED (for example, painting, leaking faucets, clogged gutters or eavestrough) 3 55.0%

n=2400

6. **How many times last winter was there a breakdown in your heating equipment; that is, how many times was it completely unusable?** (Do not include running out of fuel, power failure, or other external factors. Circle the appropriate number.)

NEVER	1	83.2%	
ONCE	2	11.0%	
MORE THAN ONCE	3	5.8%	n= 2242

7. **How many times in the past 6 months have any of your water pipes or other parts of your plumbing hardware (e.g., toilet, sink, etc.) leaked so badly that you had to mop the water up or place a bucket below the leak?** (Circle the appropriate number.)

NEVER	1	72.1%	
ONCE	2	16.6%	
MORE THAN ONCE	3	11.3%	n=2439

8. **Taking into account all aspects of your dwelling's exterior (i.e., sitework (e.g., drive/walkways, fencing, lawn), walls, foundation, roofing and any attached structures), how would you rate the overall condition of your dwelling's exterior?**

BEYOND REPAIR			MINIMUM ACCEPTABLE			PERFECT CONDITION	
1	2	3	4	5	6	7	$\bar{x}$=5.095
0.4	1.4	7.3	20.5	31.4	27.9	11.1	n=2484

THE FOLLOWING QUESTIONS DEAL WITH THE CONDITION OF DIFFERENT ASPECTS OF YOUR DWELLING AND ANY RENOVATION WORK THAT YOU MIGHT HAVE DONE OR PLAN TO DO.

9.a) **Please rate your dwelling unit's general condition by circling the appropriate number on each of the following scales.** If you are unsure about the condition rating, please circle number 9.

	BEYOND REPAIR			MINIMUM ACCEPTABLE		PERFECT CONDITION		$\bar{x}$	n
Finished Carpentry (e.g., doors, shelves, cabinets)	1	2	3	4	5	6	7		
	0.5	1.7	8.5	20.0	30.5	24.4	14.4	5.089	2364
Flooring (e.g., hardwood, carpet, tile)	1	2	3	4	5	6	7		
	1.7	4.6	12.5	20.0	24.8	21.7	14.7	4.856	2403
Drywall/Plaster	1	2	3	4	5	6	7		
	0.8	3.1	9.5	17.7	24.7	27.2	17.0	5.119	2235
Wall Surfaces (e.g., paint, paper, tiling)	1	2	3	4	5	6	7		
	0.8	3.6	10.6	18.6	25.7	25.2	15.5	5.023	2398
Electrical (e.g., lighting fixtures, wiring, etc.)	1	2	3	4	5	6	7		
	0.7	2.9	6.5	13.1	19.7	28.0	29.1	5.484	2312
Heating/Cooling (e.g., furnace, baseboard radiators, fireplace, duct work)	1	2	3	4	5	6	7		
	0.9	2.6	5.7	12.5	19.6	27.3	31.5	5.553	2297
Plumbing (e.g., pipes, fixtures).	1	2	3	4	5	6	7		
	0.9	2.8	8.8	16.6	22.9	24.8	23.2	5.249	2315
Insulation (e.g., attic, walls, doors, windows)	1	2	3	4	5	6	7		
	3.3	9.0	13.8	18.7	20.4	18.5	16.4	4.648	2204
Other (Please specify) ______________________________.	1	2	3	4	5	6	7		
	11.9	20.3	23.2	16.4	5.1	8.5	14.7	3.667	177

b) **Different tenants do varying amounts and types of renovation during a year. In 1985 did you do any maintenance, repairsor work improvements?**

YES	1	23.2%	
NO WORK DONE	2	76.8%	n=2427

c) **If you did not do any renovation work on your dwelling unit in 1985, please indicate why.** (Circle all the reasons that apply.)

			n
RENOVATION IS NOT MY RESPONSIBILITY	01	49.5%	1271
NO RENOVATION WORK WAS NEEDED	02	16.5%	423
OTHER REASON(S) (Please specify)	03	9.5%	244

In Question 10 we are asking you about the renovation work you have done in 1985. The question lists a number of building items. For each item we want to know if you have done any work in 1985 and how that work was done. If you have done renovation work for any of the items listed, please circle the number(s) that apply in both the left and right columns. The numbered choices are explained at the bottom of the page. Part (a) of the question deals with the interior of the building and part (b) deals with the mechanical systems.

10.a)	INTERIOR OF BUILDING					
	WORK DONE IN 1985			HOW WORK DONE		
Carpentry						
Floors	1 1.4%	2 1.9%	3 2.3%	1 0.3%	2 3.5%	3 0.9%
Walls	1 1.7%	2 3.5%	3 2.7%	1 0.3%	2 5.4%	3 1.1%
Shelves/cabinets	1 1.4%	2 2.5%	3 1.3%	1 0.2%	2 3.5%	3 0.9%
Doors	1 1.4%	2 2.0%	3 1.8%	1 0.2%	2 3.7%	3 0.9%
Drywall/plaster	1 1.6%	2 1.5%	3 1.9%	1 0.2%	2 3.6%	3 0.6%
Wall Surfaces (paint, paper)	1 2.1%	2 8.0%	3 6.7%	1 0.6%	2 12.0%	3 2.3%
Floor Covering						
Hardwood	1 0.5%	2 0.9%	3 1.1%	1 0.3%	2 1.4%	3 0.5%
Carpet	1 1.5%	2 3.4%	3 2.1%	1 0.9%	2 4.7%	3 1.0%
Tile	1 1.1%	2 1.0%	3 1.3%	1 0.2%	2 2.2%	3 0.6%

WORK DONE IN 1985

1. **Repairs, Replacements:** work done to improve physical safety or soundness by fixing or replacing weak, worn out or damaged parts of a building.
2. **Improvements:** work done to upgrade or modernize a building.
3. **Maintenance:** work done to keep a building in its current physical condition.

HOW WORK DONE

1. Paid a firm: you paid a firm or contractor who supplied the materials and labour
2. Paid for materials: you purchased the materials yourself
3. Paid for labour: you hired the labour yourself

10.b)

	MECHANICAL SYSTEMS					
	WORK DONE IN 1985			HOW WORK DONE		
Electrical						
Lighting fixtures	1 1.8%	2 1.8%	3 1.3%	1 0.3%	2 3.4%	3 1.0%
Wiring	1 0.9%	2 1.1%	3 0.9%	1 0.4%	2 1.8%	3 0.6%
Heating/Cooling						
Furnace/cooling unit	1 1.2%	2 0.3%	3 0.9%	1 0.5%	2 0.8%	3 0.7%
Fireplace, wood stove	1 0.3%	2 0.4%	3 0.6%	1 0.0%	2 0.7%	3 0.2%
Ductwork, pipes	1 0.4%	2 0.3%	3 0.6%	1 0.1%	2 0.6%	3 0.5%
Plumbing						
Pipes	1 2.0%	2 0.9%	3 1.3%	1 0.6%	2 1.9%	3 1.1%
Fixtures (sink, etc.)	1 2.6%	2 1.1	3 1.6%	1 0.4%	2 3.2%	3 1.0%
Hot water heater	1 1.2%	2 0.2%	3 0.8%	1 0.6%	2 0.8%	3 0.6%
Insulation						
Attic insulation	1 0.2%	2 0.2%	3 0.5%	1 0.0%	2 0.3%	3 0.2%
Wall insulation	1 0.4%	2 0.4%	3 0.4%	1 0.0%	2 0.7%	3 0.3%
Doors, windows	1 1.5%	2 1.8%	3 1.6%	1 0.2%	2 3.4%	3 0.8%
Other (Please specify) ________	1 0.6%	2 0.5%	3 0.4%	1 0.3%	2 0.8%	3 0.2%

WORK DONE IN 1985

1. Repairs, Replacements:	work done to improve physical safety or soundness by fixing or replacing weak, worn out or damaged parts of a building.
2. Improvements:	work done to upgrade or modernize a building.
3. Maintenance:	work done to keep a building in its current physical condition.

HOW WORK DONE

1. Paid a firm:	you paid a firm or contractor who supplied the materials and labour
2. Paid for materials:	you purchased the materials yourself
3. Paid for labour:	you hired the labour yourself

11. **For all of the renovation work you undertook on your dwelling in 1985 (as listed in Question 10) please indicate the total amounts you paid for each of the following:** (Please indicate $0 if you did no work.)

FIRMS YOU PAID WHICH SUPPLIED LABOUR AND MATERIALS	$ ☐☐☐,☐☐☐☐.00	$\bar{x}=\$986.21$ $s=\$2600.61$ $n=81$
MATERIALS YOU PAID FOR DIRECTLY	$ ☐☐☐,☐☐☐☐.00	$\bar{x}=\$416.20$ $s=\$844.55$ $n=414$
WORKERS YOU PAID DIRECTLY	$ ☐☐☐,☐☐☐☐.00	$\bar{x}=\$385.40$ $s=\$1462.36$ $n=80$
TOTAL COST	$ ☐☐☐,☐☐☐☐.00	$\bar{x}=\$649.98$ $s=\$1982.48$ $n=353$

12. **How useful was each of these information sources to you when undertaking the renovation work on this building in 1985? When answering, consider the usefulness for identifying problems, choosing a solution and completing the work.**

	NOT AT ALL USEFUL 1	2	3	SOMEWHAT USEFUL 4	5	6	EXTREMELY USEFUL 7	$\bar{x}$	n
Training Courses	43.2	2.7	8.1	17.6	9.5	4.1	14.9	3.189	74
Pamphlets, written material	14.1	5.1	8.3	26.9	21.2	9.0	15.4	4.244	156
Personal Experience	1.0	0.5	1.5	10.7	12.2	19.2	55.0	6.102	411
Word-of-mouth	4.5	2.7	5.0	27.0	16.7	18.0	26.1	5.072	222
Professional Advice	14.8	3.7	3.7	13.0	11.1	17.3	36.4	4.994	162

13. **How satisfied were you with the following aspects of the last renovation job done in 1985 by the firm/worker you hired?** (If you did not hire a firm/worker to do renovation work in 1985, please check the box and skip to Question 14.)

☐ NO ONE HIRED 14.4% n=370

	EXTREMELY DISSATISFIED 1	2	3	4	5	6	EXTREMELY SATISFIED 7	$\bar{x}$	n
The quality of workmanship	4.0	3.2	4.8	14.3	17.5	26.2	30.2	5.373	126
The quality of materials used	3.4	3.4	3.4	10.2	20.3	29.7	29.7	5.483	118
The time it took to complete the work	4.2	3.3	6.7	14.2	11.7	29.2	30.8	5.367	120

THE TYPE OF JOB DONE LAST IN 1985 WAS: ____________________

THESE NEXT TWO QUESTIONS DEAL WITH YOUR HOME ENERGY PRACTICES AND THE CONDITION OF ENERGY RELATED FACILITIES.

14. **Do you have control of the heat in your dwelling through a properly working thermostat?**

YES 1 80.6%
NO .... 2 19.4% n=2470

15. **In the winter, is the average temperature at night in this dwelling satisfactory for you?** Please circle the appropriate number on the scale below.

TOTALLY UNSATISFACTORY 1	2	3	4	5	6	TOTALLY SATISFACTORY 7
3.2	3.2	5.8	9.3	15.0	24.3	39.0

$\bar{x}$=5.588
n=2315

IN THIS SECTION WE WANT TO ASK YOU ABOUT YOUR EXPERIENCES WITH THE RENOVATION PROCESS AND ABOUT YOUR INTENTIONS TO RENOVATE IN THE FUTURE.

16. **Do you plan to move in the next 12 months?**

YES 1 34.2%

NO .... 2 65.8% n=2470

17. **If you plan to move in the next 12 months,** please rate the importance of each of the following reasons on a scale from 1 to 7:

	EXTREMELY UNIMPORTANT						EXTREMELY IMPORTANT		
	1	2	3	4	5	6	7	$\bar{x}$	n
Told to leave because of impending renovation work (i.e., served notice/ lease terminated)	77.3	3.4	2.1	4.8	3.8	1.9	6.7	1.867	525
Rent was going to increase to an unaffordable level because of renovation work	65.4	3.2	2.0	6.0	4.5	6.3	12.7	2.507	537
Other (Please specify) ________________________ ..	2.6	0.4	1.1	1.3	7.8	15.6	71.1	6.427	461

18. **If this dwelling underwent renovation in 1985, were you required to vacate the dwelling while it was being renovated?** (If no renovation was undertaken in 1985, or you were not here in 1985, circle the appropriate number below and skip to Question 21.)

NO RENOVATION DONE IN 1985. 1 51.2%
I WAS NOT HERE IN 1985 .... 2 19.3%
YES 3 2.5%
NO 4 26.9%

n=2317

19. **Was there a rent increase immediately after any renovation work done in 1985?**

YES 1 17.9%
NO .... 2 82.1% n=637

20.a) **How much was your total monthly rent (i.e., including heat and hydro) in the periods immediately before and immediately after the renovation work done in 1985?**

BEFORE $ ☐☐ ,☐☐☐☐ .00 $\bar{x}$=$355.16
s=$134.48
n=116

AFTER $ ☐☐ ,☐☐☐☐ .00 $\bar{x}$=$387.68
s=$128.21
n=114

b) **How serious a financial problem for your household was the rent increase immediately after the renovation work done in 1985?**

EXTREMELY SERIOUS PROBLEM			A MODERATE PROBLEM			NOT A PROBLEM AT ALL	
1	2	3	4	5	6	7	$\bar{x}$=4.525
9.0	6.6	11.5	28.7	9.8	9.0	25.4%	n=122

21.a) **Sometimes it is possible to plan ahead for doing renovation work while other times it must be done as the need arises. To the best of your knowledge, in which of the following areas will you do work in 1987?** (Circle all that apply.)

CARPENTRY	01	6.1%	n=157
FLOORING	02	9.1%	n=234
WALLS	03	11.1%	n=285
ELECTRICAL	04	3.2%	n=82
HEATING/COOLING	05	3.0%	n=76
PLUMBING	06	5.9%	n=152
INSULATION	07	4.9%	n=126
DOORS AND WINDOWS	08	9.5%	n=244
OTHER (Please specify) ____________________	09	6.9%	n=178
NO PLANS TO RENOVATE	10	60.9%	n=1564

b) **How much do you plan to spend on this work in 1987?**

☐☐☐ , ☐☐☐☐ .00 $\bar{x}$=$1122.76
s=$2520.91
n=329

NEXT WE WANT TO ASK ABOUT CONDITIONS IN YOUR NEIGHBOURHOOD.

22. **How would you rate the present quality of facilities and services (e.g., parks, schools, shopping, day care, etc.) in the neighbourhood of this dwelling?**

TERRIBLE			AVERAGE			EXCELLENT	
1	2	3	4	5	6	7	$\bar{x}$=5.308
2.0	1.7	4.7	22.0	20.7	22.9	26.1	n=2494

23. **How would you rate the quality of facilities and services in this neighbourhood five years ago, or if you moved here within the last five years, at the time you moved here?**

TERRIBLE			AVERAGE			EXCELLENT	
1	2	3	4	5	6	7	$\bar{x}$=5.094
2.6	1.8	6.3	25.4	21.7	21.1	21.1	n=2347

FINALLY, WE NEED SOME BASIC INFORMATION ABOUT THE CHARACTERISTICS OF YOUR HOUSEHOLD. AS WITH ALL OF THE PREVIOUS DATA GATHERED, THIS INFORMATION WILL BE KEPT STRICTLY CONFIDENTIAL AND WILL BE USED ONLY FOR STATISTICAL ANALYSIS.

24.a) **Please identify the age and relationship to you of each person who lives in this dwelling.**

			RELATION TO YOU (Circle one number only)				
PERSON	AGE		SPOUSE	CHILD	PARENT	OTHER	
1. YOURSELF	☐☐	$\bar{x}$=35.47 yrs. n=2444	-	-	-	-	
2. PERSON 2	☐☐	$\bar{x}$=30.73 yrs. n=1882	1 66.5%	2 13.7%	3 3.7%	4 16.1%	n=1882
3. PERSON 3	☐☐	$\bar{x}$=12.31 yrs. n=1027	1 0.3%	2 84.8%	3 3.6%	4 11.3%	n=1027
4. PERSON 4	☐☐	$\bar{x}$=10.61 yrs. n=548	1 0.2%	2 87.2%	3 1.6%	4 10.9%	n=548
5. PERSON 5	☐☐	$\bar{x}$=11.70 yrs. n=183	1 0.5%	2 79.8%	3 2.7%	4 16.9%	n=183
6. PERSON 6	☐☐	$\bar{x}$=14.68 yrs. n=60	1 0.0%	2 61.7%	3 1.7%	4 36.7%	n=60
7. PERSON 7	☐☐	$\bar{x}$=19.17 yrs. n=12	1 0.0%	2 50.0%	3 30.0%	4 50.0%	n=12
8. PERSON 8	☐☐	$\bar{x}$=27.60 yrs. n=5	1 20.0%	2 40.0%	3 0.0%	4 40.0%	n=5

b) **Which of the following types best describes your household?** (Circle one number only.)

i)	ONE PERSON, LIVING ALONE	1	25.5%	
ii)	ONE ADULT WITH CHILDREN	2	9.5%	
iii)	A MARRIED OR COMMON-LAW COUPLE, WITHOUT CHILDREN	3	22.6%	n=2491
iv)	A MARRIED OR COMMON-LAW COUPLE, WITH CHILDREN	4	31.4%	
v)	TWO OR MORE UNRELATED PERSONS	5	6.0%	
vi)	OTHER (please specify) ____________	6	5.0%	

25. **Does any member of this household have any physical disability that requires the use of special physical structures or facilities in or around this dwelling (e.g., access to dwelling and major rooms by wheelchair, grab bars, kitchen modifications, electronic intercoms, etc.)?** Please circle the appropriate number.

NO	1	98.0%
YES, and changes to this dwelling would be desirable	2	0.9%
YES, but the dwelling is well designed and incorporates satisfactory features	3	0.6%
YES, but the dwelling has already been modified and is now satisfactory	4	0.4%
		n=2468

26. **What is the highest level of formal education which you (and your spouse, if married) have achieved?**

	YOU		YOUR SPOUSE	
NO SPOUSE			0	22.8%
PRIMARY SCHOOL	1	7.1%	1	6.9%
HIGH SCHOOL	2	41.3%	2	36.8%
SOME COMMUNITY COLLEGE	3	12.3%	3	9.1%
COMMUNITY COLLEGE GRADUATE	4	12.6%	4	9.2%
SOME UNIVERSITY	5	9.9%	5	4.7%
UNIVERSITY GRADUATE	6	11.9%	6	7.4%
POST GRADUATE	7	4.9%	7	3.1%
		n=2415		n=1820

27. **Regarding your ethnic or cultural background, do you consider yourself a Canadian native Indian, Métis, or Inuit?**

YES	1	9.3%	
NO	2	90.7%	n=2398

28. **Which of these occupational groups comes closest to describing your current occupation (or former, if retired) and that of your spouse?**

	YOU		YOUR SPOUSE	
NO SPOUSE			0	27.8%
FARMING, FISHING, FORESTRY, LOGGING, MINING AND QUARRYING OCCUPATIONS	1	2.0	1	3.1%
LABOURER	2	8.7	2	10.0%
SEMI-SKILLED	3	5.6	3	4.7%
SKILLED TRADESMAN	4	7.7	4	7.9%
SALES, SERVICE, CLERICAL	5	21.9	5	12.3%
PROFESSIONAL	6	19.4	6	9.5%
MANAGERIAL OR ADMINISTRATIVE	7	10.0	7	6.9%
HOMEMAKER	8	14.5	8	11.9%
OTHER (Please specify) ______	9	10.0	9	6.0%
		n=2403		n=1820

29. **Which of the following categories best describes the employment status of you and your spouse in 1985?**

	YOU		YOUR SPOUSE	
NO SPOUSE			0	27.7%
SELF EMPLOYED	1	5.8%	1	6.8%
FULL-TIME EMPLOYEE	2	53.9%	2	36.5%
PART-TIME EMPLOYEE	3	11.7%	3	10.6%
UNEMPLOYED	4	10.9%	4	8.0%
FULL-TIME STUDENT	5	5.1%	5	2.3%
RETIRED	6	7.7%	6	3.3%
OTHER (Please specify) ______	9	4.9%	9	4.8%
		n=2367		n=1795

30. **What is the monthly cash rent you now pay for this dwelling?**

$ ☐,☐☐☐.00 $\bar{x}$=$389.07 OR ☐ RENTAL WITHOUT PAYMENT OF CASH RENT 2.7%
s=$279.74 (e.g., work in exchange for rent) n=70
n=2395

31. **Which of the following payments are included in your rent?** (Circle all the appropriate numbers for the items included in rent.)

WATER	1	61.6%	n=1582
ELECTRICITY	2	16.9%	n=435
HEAT	3	41.5%	n=1066
TAXES	4	67.6%	n=1735
PARKING	5	54.5%	n=1399

32.a) **Considering all sources, what was your approximate total household income in 1985?**

$ ___ ___ ___ , ___ ___ ___ .00

$\bar{x}$=\$25.173.50
s=\$24,826.98
n=1768

b) **If you do not know your total household income for 1985, please tell us your total household income for the last month.**

$ ___ ___ , ___ ___ ___ .00

$\bar{x}$=\$2173.18
s=\$5423.60
n=640

33. **Please note here any other comments you wish to make which you think may be of interest to our study.**

____

____

____

____

To complete this study, the Canada Mortgage and Housing Corporation (CMHC) wants to visit a variety of rental dwellings to observe physical housing conditions and view any renovations done in 1985.

If your landlord agrees to this visit to your dwelling, a CMHC building expert will telephone you to confirm your approval and to arrange for an appointment when you both can be present. The information collected will be kept strictly confidential.

In appreciation of your time, we will be pleased to provide you with a copy of a CMHC housing publication on maintenance and repair.

THANK YOU VERY MUCH FOR YOUR COOPERATION IN COMPLETING THIS QUESTIONNAIRE.

Rental Building Address:

____

____

____

NATIONAL HOUSING STUDY

July 1986

Dear Landlord:

Ekos Research Associates has been hired by the Canada Mortgage and Housing Corporation (CMHC) to conduct a study of housing conditions and housing renovation activity in Canada. Your opinions and information about the building listed above will assist the federal government in evaluating and planning housing rehabilitation programs. In order for the results of this study to represent the thinking of all landlords and the conditions which they must face, we are asking you to take a few minutes to complete and return this questionnaire. Because our sample is small and represents all types of building owners, it is important that we have your views.

One tenant from this rental building has been selected by a scientific random sampling process. He/she has been asked to complete a questionnaire that applies to their unit only. As the owner of the building, you can provide important information on the overall physical condition of the building, as well as the condition of common areas and areas such as mechanical rooms. Your description of renovation work you undertook on the building in 1985 is also important to us.

In appreciation of your time, we are now in the process of mailing you a free copy of a CMHC publication offering useful tips and advice on increasing the security of your rental building.

The questionnaire should be completed by the person who is responsible for or familiar with the expenditures and decisions regarding this rental building. Your answers will be kept **completely confidential**. When you have completed the form, please return it as soon as possible in the postage-paid envelope provided. For answers to any questions that you may have about the survey, call Ekos Research in Ottawa (collect) at (613) 235-4475.

Thank you for your assistance in this important study.

Sincerely,

Joyce Potter
Executive Director
Operations Review Directorate
Canada Mortgage and Housing Corporation

Ce questionnaire est aussi disponible en français auprès de la firme Ekos, à Ottawa, au numéro de téléphone suivant: (613) 235-4475 (à frais virés).

GENERAL GUIDELINES FOR COMPLETING THIS QUESTIONNAIRE

All of the questions concern the rental building listed on the front page. For the questions on renovation work, please include the work you completed between January 1st and December 31st, 1985 as well as work started then which was still underway at the end of that year.

There are only four types of questions in this questionnaire. The following examples show you how to complete them.

1. The first type concerns characteristics of this rental building and renovation work you did in 1985. Please indicate your reply by circling the number next to your answer. For example:

   Does this building have an indoor garage?

   YES 1
   NO .... [✓ 2]
   DON'T KNOW 9

2. A number of questions ask you to give your opinion about the condition of your building or the quality of renovation work done by someone you hired. Please circle the number on the scale which best reflects your view. Note that the ends of the scales are the extreme condition ratings. For example:

   Please rate the physical condition of the roof of the building by circling the appropriate number on the scale.

BEYOND REPAIR	VERY POOR CONDITION	POOR CONDITION	MINIMUM ACCEPTABLE	GOOD CONDITION	VERY GOOD CONDITION	PERFECT CONDITION
1	2	3	4	[✓ 5]	6	7

3. Some questions require you to write a number in the spaces provided. Please enter only one digit in each box. For financial information provide approximate amounts, rounded to the nearest dollar. For example:

   A. Renovation expenses:

   $ |2| , |5|0|0| .00

   OR

   B. Number of units:

   |1|0|

4. **Some questions cannot be answered by certain landlords because they involve situations that do not apply to them. Please check the box indicated if these questions do not apply to you. For example:**

   How satisfied were you with the firm/worker you hired?

   ☑ NO ONE HIRED

THIS FIRST SECTION DEALS WITH THE MAJOR FEATURES OF YOUR RENTAL BUILDING

1. **What type of building is this?**

SINGLE DETACHED HOUSE 1 29.8%
OTHER, duplex, row, apartment n=950
(Please specify)________________.. 2 70.2%

2. **How many dwelling units in total are in this rental building?** (A dwelling unit is a separate set of living quarters with a private entrance from the outside or from a common hallway or stairway inside the building. This entrance should not be through someone else's living quarters.)

NUMBER OF UNITS |__|__|__|

$\bar{x}$=14.01
s=33.72
n=924

3. **How many of these units are currently vacant?**

NUMBER VACANT |__|__|

$\bar{x}$=0.77
s=4.26
n=824

4. **What is the principal fuel used for heating this building?** (Circle the appropriate number. If you use a second fuel at least one third of the time, circle one number in the second column.)

	PRINCIPAL FUEL		SECONDARY FUEL	
OIL OR KEROSENE	1	24.2%	1	12.9%
PIPED GAS (e.g., natural gas)	2	37.8%	2	8.4%
BOTTLED GAS (e.g., propane)	3	0.4%	3	2.2%
ELECTRICITY	4	35.5%	4	46.1%
COAL OR COKE	5	0.0%	5	0.0%
WOOD	6	1.3%	6	27.5%
OTHER (Please specify) __________.	7	0.8%	7	2.8%
		n=948		n=178

5. **What is the principal type of heating equipment for this building?** (Circle the appropriate number. If at least one third of the heating is provided by a second type of equipment, circle one number in the second column.)

	PRINCIPAL HEATING EQUIPMENT		SECONDARY HEATING EQUIPMENT	
FORCED HOT AIR FURNACE	1	35.3%	1	14.5%
STEAM OR HOT WATER BOILER	2	26.5%	2	5.9%
SPACE HEATER (e.g., oil or electric).	3	3.7%	3	9.2%
ELECTRIC BASEBOARD HEATING	4	30.9%	4	38.8%
COOKING STOVE, RANGE, OR HEATING STOVE	5	0.8%	5	3.9%
WOODSTOVE	6	1.0%	6	23.7%
OTHER (Please specify) ____________.	7	1.8%	7	3.9%
		n=931		n=152

NEXT ARE SOME QUESTIONS TO HELP US OBTAIN A DESCRIPTION OF THE AGE OF YOUR BUILDING, ITS CONDITION AND RENOVATION WORK YOU MAY HAVE DONE.

6. **How long have you owned this building?** (Round up to the nearest full year. If less than one year, please indicate 1 year.)

NUMBER OF YEARS |__|__|

$\overline{x}$=11.05 yrs
s=10.88
n=951

7. **To the best of your knowledge approximately when was this building originally built?**

|1|__|__|__|

$\overline{x}$=1950.61
s=42.22
n=907

8. **Has this building been recognised, listed or registered as a potential heritage property, or designated as a heritage property by the local, regional, provincial or federal government?**

YES	1	1.5%	
NO	2	98.5%	n=850

9. **Is this rental building in need of any "repairs"?** Do not include desirable remodelling, additions, conversions or energy improvements. Select one category only by circling the number corresponding to the appropriate answer.

YES, MAJOR REPAIRS ARE NEEDED (to correct, for example, corroded pipes, damaged electrical wiring, sagging floors, bulging walls, damp walls and ceilings, crumbling foundation, rotting porches and steps) 1 10.7%

YES, MINOR REPAIRS ARE NEEDED (to correct, for example, small cracks in interior walls and ceilings, broken light fixtures and switches, leaking sink, cracked or broken window panes, some missing shingles or siding, some peeling paint) 2 23.2%

NO, ONLY REGULAR MAINTENANCE IS NEEDED (for example, painting, leaking faucets, clogged gutters or eavestrough) 3 66.0%

n=942

10.a) **Please rate the building's general physical condition by circling the appropriate number on the scale. Consider all units and provide average ratings for the building as a whole.**

	BEYOND REPAIR			MINIMUM ACCEPTABLE			PERFECT CONDITION	$\bar{x}$	n
Sitework (e.g., driveway, plantings, fencing)	1	2	3	4	5	6	7		
	0.4	1.2	7.8	19.9	29.7	22.2	18.8	5.189	901
Outside Walls	1	2	3	4	5	6	7		
	0.1	1.6	4.5	13.3	22.2	30.2	28.2	5.591	895
Roof (e.g., gutters, downspouts, shingles)	1	2	3	4	5	6	7		
	0.5	2.9	8.0	13.6	21.6	21.5	31.9	5.450	936
Chimney	1	2	3	4	5	6	7		
	0.9	1.3	3.6	11.5	19.6	30.3	32.6	5.690	745
Doors, Windows	1	2	3	4	5	6	7		
	0.6	2.2	7.5	17.7	21.9	24.9	25.3	5.335	937
Attached Structures (e.g., steps, porches)	1	2	3	4	5	6	7		
	1.2	1.0	7.4	13.9	22.0	26.4	28.2	5.459	888
Finished Carpentry (e.g., doors, shelves, cabinets)	1	2	3	4	5	6	7		
	0.7	0.9	6.7	17.1	25.3	26.9	22.5	5.358	938
Flooring (e.g., hardwood, carpet, tile)	1	2	3	4	5	6	7		
	0.7	1.3	8.1	15.9	26.5	24.9	22.5	5.308	935
Drywall/Plaster	1	2	3	4	5	6	7		
	0.7	0.9	5.5	12.3	26.2	30.2	24.2	5.499	891
Wall Surfaces (e.g., paint, paper, tiling)	1	2	3	4	5	6	7		
	0.5	1.3	5.8	13.7	24.7	30.8	23.1	5.456	931
Electrical (e.g., lighting fixtures, wiring etc.)	1	2	3	4	5	6	7		
	0.6	1.1	4.1	9.4	16.6	30.3	38.0	5.829	935
Heating/Cooling (e.g., furnace, baseboard radiators, fireplace, ductwork)	1	2	3	4	5	6	7		
	0.8	1.1	2.5	7.6	18.0	30.5	39.6	5.909	927
Plumbing (e.g., pipes, fixtures)	1	2	3	4	5	6	7		
	0.4	1.0	5.3	11.3	20.4	30.2	31.4	5.666	930
Insulation (e.g., attic, walls, doors, windows)	1	2	3	4	5	6	7		
	0.9	3.2	8.8	14.6	20.8	26.2	25.6	5.321	910
Other (Please specify)	1	2	3	4	5	6	7		
	4.7	12.5	14.1	10.9	7.8	15.6	34.4	4.891	64

10.b) **Different landlords do varying amounts and types of renovation work during a year. In 1985, did you do any maintenance, repairs or improvements?**

YES	1	59.7%	
NO WORK DONE	2	40.3%	n=913

c) **If you did not do any renovation work on this building in 1985, please indicate why.** (Circle all the reasons that apply.)

			n
NO RENOVATION WORK WAS NEEDED	01	20.1%	196
OTHER BUSINESS WAS MORE IMPORTANT	02	2.4%	23
RENOVATION COMPANIES/WORKERS WERE TOO BUSY	03	0.1%	1
TOO MUCH GOVERNMENT RED TAPE	04	0.7%	7
PROPERTY TAXES MIGHT INCREASE	05	1.3%	13
RENOVATION WORK COULD COST TOO MUCH:	06	4.6%	45
INTEREST RATES TOO HIGH	07	1.0%	10
LOAN TERMS UNSUITABLE	08	0.6%	6
LOAN REQUEST TURNED DOWN	09	0.2%	2
OTHER REASON(S) (Please specify) ______________________________ ...	10	8.1%	79

In Question 11 we are asking you about the renovation work you have done in 1985. The question lists a number of building items. For each item we want to know if you have done any work in 1985 and how that work was done. If you have done renovation work for any of the items listed, please circle the number(s) that apply in both the left and right columns. The numbered choices are explained at the bottom of the page. Part (a) of the question deals with the exterior of the building, part (b) with the interior of the building, and part (c) with the mechanical systems.

11.a)

	EXTERIOR OF BUILDING					
	WORK DONE IN 1985			HOW WORK DONE		
Sitework (Driveway/planting/fencing)	1 6.2%	2 8.4%	3 11.6%	1 7.5%	2 12.4%	3 7.8%
Outside Walls Structural	1 3.1%	2 2.1%	3 6.3%	1 3.4%	2 5.1%	3 3.4%
Outside Wall Finish Wood	1 1.1%	2 1.1%	3 7.9%	1 2.4%	2 4.7%	3 2.9%
Other	1 1.2%	2 1.8%	3 3.5%	1 2.6%	2 2.5%	3 1.8%
Roof Gutters, downspouts	1 6.2%	2 3.0%	3 7.3%	1 6.6%	2 5.6%	3 3.0%
Roof Covering (e.g., shingles) .	1 5.2%	2 1.6%	3 6.6%	1 7.1%	2 3.7%	3 2.5%
Chimney	1 1.6%	2 1.0%	3 3.7%	1 2.3%	2 1.6%	3 1.4%
Doors/Windows	1 7.3%	2 4.8%	3 11.5%	1 6.3%	2 10.2%	3 7.1%
Steps/Porches	1 8.6%	2 3.6%	3 9.1%	1 4.2%	2 10.5%	3 6.3%

WORK DONE IN 1985

1. Repairs, Replacements: work done to improve physical safety or soundness by fixing or replacing weak, worn out or damaged parts of a building.
2. Improvements: work done to upgrade or modernize a building.
3. Maintenance: work done to keep a building in its current physical condition.

HOW WORK DONE

1. Paid a firm: you paid a firm or contractor who supplied the materials and labour.
2. Paid for materials: you purchased the materials yourself.
3. Paid for labour: you hired the labour yourself.

11.b)

	INTERIOR OF BUILDING					
	WORK DONE IN 1985			HOW WORK DONE		
Carpentry						
Floors	1	2	3	1	2	3
	4.9%	4.9%	6.8%	4.5%	7.8%	5.8%
Walls	1	2	3	1	2	3
	4.1%	5.8%	8.4%	3.5%	10.4%	6.1%
Doors	1	2	3	1	2	3
	4.1%	3.9%	8.0%	3.8%	7.6%	6.3%
Shelves/cabinets	1	2	3	1	2	3
	3.2%	4.4%	4.7%	2.8%	6.4%	3.9%
Drywall/plaster	1	2	3	1	2	3
	5.3%	5.1%	8.6%	4.8%	10.1%	6.2%
Wall Surfaces (paint, paper)	1	2	3	1	2	3
	6.1%	7.9%	19.5%	7.6%	19.5%	9.9%
Floor Covering						
Hardwood	1	2	3	1	2	3
	1.3%	1.2%	3.0%	1.4%	2.7%	2.0%
Carpet	1	2	3	1	2	3
	5.1%	6.7%	9.2%	8.2%	8.9%	6.1%
Tile	1	2	3	1	2	3
	4.9%	4.5%	6.3%	3.7%	8.6%	5.4%

WORK DONE IN 1985

1. Repairs, Replacements: work done to improve physical safety or soundness by fixing or replacing weak, worn out or damaged parts of a building.
2. Improvements: work done to upgrade or modernize a building.
3. Maintenance: work done to keep a building in its current physical condition.

HOW WORK DONE

1. Paid a firm: you paid a firm or contractor who supplied the materials and labour.
2. Paid for materials: you purchased the materials yourself.
3. Paid for labour: you hired the labour yourself.

11.c)

	MECHANICAL SYSTEMS					
	WORK DONE IN 1985			HOW WORK DONE		
Electrical						
Lighting fixtures	1 4.3%	2 3.9%	3 6.4%	1 4.3%	2 7.8%	3 4.1%
Wiring	1 3.7%	2 4.4%	3 3.2%	1 5.4%	2 3.3%	3 3.2%
Heating/Cooling						
Furnace/cooling unit	1 4.9%	2 2.8%	3 7.2%	1 9.1%	2 3.1%	3 2.7%
Fireplace, wood stove	1 0.2%	2 0.2%	3 1.4%	1 0.5%	2 0.9%	3 0.4%
Ductwork, pipes	1 1.1%	2 0.5%	3 1.4%	1 1.4%	2 0.9%	3 1.0%
Plumbing						
Pipes	1 6.9%	2 3.0%	3 7.4%	1 7.3%	2 6.0%	3 3.9%
Fixtures (sink etc.)	1 6.6%	2 4.1%	3 8.1%	1 5.5%	2 9.0%	3 4.8%
Hot water heater	1 7.0%	2 2.5%	3 5.5%	1 6.7%	2 4.9%	3 3.2%
Insulation						
Attic insulation	1 2.3%	2 2.7%	3 1.1%	1 2.7%	2 2.4%	3 1.0%
Wall insulation	1 2.6%	2 2.5%	3 1.2%	1 1.7%	2 3.4%	3 1.7%
Doors, Windows	1 3.7%	2 3.5%	3 4.6%	1 3.8%	2 5.4%	3 3.2%
Other (Please specify) _________	1 0.9%	2 1.2%	3 1.0%	1 1.3%	2 1.3%	3 0.4%

WORK DONE IN 1985

1. **Repairs, Replacements:** work done to improve physical safety or soundness by fixing or replacing weak, worn out or damaged parts of a building.
2. **Improvements:** work done to upgrade or modernize a building.
3. **Maintenance:** work done to keep a building in its current physical condition.

HOW WORK DONE

1. **Paid a firm:** you paid a firm or contractor who supplied the materials and labour.
2. **Paid for materials:** you purchased the materials yourself.
3. **Paid for labour:** you hired the labour yourself.

11.d) **Did you add any space or rooms to this building in 1985?**

YES 1 3.8%
NO .... 2 96.2% n=572

e) **Did you convert this building from a non-housing to a housing use in 1985?**

YES 1 1.1%
NO .... 2 98.9% n=560

f) **Did you change the number of self-contained dwelling units in this building in 1985?**

YES 1 2.6%
NO .... 2 97.4% n=570

12. **For all of the renovation work you undertook on your building in 1985 (as listed in Question 11) please indicate the total amounts you paid for each of the following:** (Please indicate $0 if you did no work.)

FIRMS YOU PAID WHICH SUPPLIED LABOUR AND MATERIALS	$ ☐☐☐☐ , ☐☐☐☐ .00	$\bar{x}$=$8098.07 s=$21,096.66 n=303
MATERIALS YOU PAID FOR DIRECTLY	$ ☐☐☐☐ , ☐☐☐☐ .00	$\bar{x}$=$2960.05 s=$7846.17 n=367
WORKERS YOU PAID DIRECTLY	$ ☐☐☐☐ , ☐☐☐☐ .00	$\bar{x}$=$3004.82 s=$6537.19 n=217
TOTAL COST	$ ☐☐☐☐ , ☐☐☐☐ .00	$\bar{x}$=$9067.62 s=$23069.75 n=437

13. **How useful was each of these information sources to you when undertaking the renovation work on this building in 1985? When answering, consider the usefulness for identifying problems, choosing a solution and completing the work.**

	NOT AT ALL USEFUL 1	2	3	SOMEWHAT USEFUL 4	5	6	EXTREMELY USEFUL 7	$\bar{x}$	n
Training courses	51.1	4.3	12.0	16.3	2.2	3.3	10.9	2.674	92
Pamphlets, written material	20.5	5.6	8.2	21.5	19.5	10.3	14.4	4.021	195
Personal experience	3.7	0.5	1.9	9.3	10.4	22.3	52.0	5.970	431
Word-of-mouth	9.8	3.8	6.4	23.9	22.7	19.3	14.0	4.598	264
Professional advice	7.7	2.5	5.6	14.4	17.2	22.1	30.5	5.193	285

14. **How satisfied were you with the following aspects of the last renovation job done in 1985 by the firm/worker you hired?** (If you did not hire anyone to do renovation work in 1985, please check the box and skip to Question 15.)

☐ NO ONE HIRED 14.1% n=138

	EXTREMELY DISSATISFIED 1	2	3	4	5	6	EXTREMELY SATISFIED 7	$\bar{x}$	n
The quality of workmanship	1.9	2.2	3.0	11.6	26.1	31.2	24.2	5.481	372
The quality of materials used	0.8	1.7	2.8	10.4	23.2	36.1	24.9	5.616	357
The time it took to complete the work	3.8	3.2	3.8	13.6	23.7	28.3	23.7	5.301	346

THE TYPE OF JOB DONE LAST IN 1985 WAS: ____________________

NEXT WE WOULD LIKE YOU TO ANSWER A FEW QUESTIONS ABOUT THE FINANCING OF THE RENOVATION WORK YOU DID IN 1985.

15. **Which of the following financing methods did you use to pay for the renovation work you did in 1985?** Please circle the appropriate number(s).

	YES		
PERSONAL SOURCES (savings, income).......	1	47.7%	n=466
LOAN FROM A BANK OR LENDING INSTITUTION .	1	6.7%	n=65
MORTGAGE	1	2.7%	n=26
LOAN FROM A FRIEND OR RELATIVE	1	0.6%	n=6
RESIDENTIAL REHABILITATION ASSISTANCE PROGRAM (RRAP)	1	1.0%	n=10
CANADIAN OIL SUBSTITUTION PROGRAM (COSP).	1	2.3%	n=22
CANADIAN HOME INSULATION PROGRAM (CHIP) .	1	1.7%	n=17
OTHER FEDERAL GOVERNMENT PROGRAM (Please specify) ____________________.	1	0.5%	n=5
OTHER GOVERNMENT PROGRAM (provincial, municipal, please specify) ____________ ______________________________...	1	0.9%	n=9
OTHER (Please specify) ______________...	1	2.3%	n=22

16. **If borrowing for any of the work done in 1985, how many institutions did you attempt to get a loan from?**

1 INSTITUTION	1	15.5%	
2 OR 3 INSTITUTIONS	2	2.8%	
MORE THAN 3 INSTITUTIONS	3	0.5%	n=432
DID NOT BORROW ANY FUNDS	4	81.3%	

17. **Did a bank, trust company or credit union turn down any request you made for a loan to do the renovation work you described (in Question 11) for this building?**

YES	1	7.9%	
NO	2	92.1%	n=101

18. **Briefly state the main reason they gave for turning down your request.**

19. **Were any of the tenants in this building moved out temporarily as a result of the renovation work done in 1985?**

YES	1	4.1%	
NO	2	95.9%	n=559

If so, how many? ☐☐☐ $\bar{x}=2.05$
$s=1.43$
$n=19$

20. **Did any tenants in this building move out permanently because of renovation work completed in 1985** (e.g., to avoid higher rent or inconvenience)?

YES	1	3.0%	
NO	2	97.0%	n=561

If so, how many? ☐☐☐ $\bar{x}=2.19$
$s=1.56$
$n=16$

IN THIS SECTION WE WANT TO ASK ABOUT YOUR REASONS FOR RENOVATING AND YOUR PLANS TO RENOVATE IN THE FUTURE.

21. **Please rate the importance of the following reasons for making your decision to renovate in 1985. Did you undertake the renovation work as you indicated in Question 11 to make your building:**

	NOT VERY IMPORTANT 1	2	3	4	5	6	VERY IMPORTANT 7	$\bar{x}$	n
Look better:									
Outside	9.6	3.0	4.3	11.1	18.5	23.3	30.1	5.162	395
Inside	7.6	1.7	1.7	12.0	19.3	26.1	31.7	5.388	410
Have a higher resale value	16.9	3.6	6.0	13.9	17.8	19.0	22.7	4.598	331
Safer	12.5	2.5	4.6	9.5	11.7	23.2	36.0	5.188	367
Less costly to:									
Heat	17.7	5.4	6.3	6.0	9.0	19.2	36.3	4.862	333
Maintain	13.4	1.7	5.2	7.9	15.7	21.6	34.4	5.131	343
Bigger	70.9	7.4	3.0	6.1	1.7	5.2	5.7	1.987	230
More accessible to the handicapped	70.1	7.7	3.2	9.5	2.3	2.7	4.5	1.923	221
Meet health, safety regulations	30.4	3.5	3.2	9.2	8.8	14.1	30.7	4.279	283
Other (Please specify) ____	25.4	0.0	0.0	4.5	7.5	9.0	53.7	5.104	67

22.a) **Sometimes it is possible to plan ahead for doing renovation work while other times it must be done as the need arises. To the best of your knowledge, in which of the following areas will you do work in 1987?** Circle all that apply.)

SITEWORK	01	18.8%	n=184
WALLS (inside or outside)	02	21.2%	n=207
ROOF, CHIMNEY	03	17.0%	n=166
DOORS AND WINDOWS	04	22.3%	n=218
CARPENTRY	05	12.8%	n=125
FLOORING	06	16.3%	n=159
ELECTRICAL	07	6.6%	n=64
HEATING/COOLING	08	6.1%	n=60
PLUMBING	09	14.2%	n=139
INSULATION	10	9.2%	n=90
OTHER (Please specify) ________________	11	10.3%	n=101
NO PLANS TO RENOVATE	12	32.8	n=320

b) **How much do you plan to spend on this work in 1987?**

$ ☐ ,☐☐☐ ,☐☐☐ .00

$\bar{x}$=$11,271.02
s=$51,440.88
n=465

NEXT WE WANT TO ASK SOME GENERAL QUESTIONS ABOUT THE NEIGHBOURHOOD OF THIS BUILDING.

23. **How would you rate the present quality of facilities and services** (e.g., parks, schools, shopping, day care, etc.) **in the neighbourhood of this building?**

TERRIBLE			AVERAGE			EXCELLENT	
1	2	3	4	5	6	7	$\bar{x}$=5.355
1.2	1.0	3.7	24.7	19.8	24.2	25.4	n=928

24. **How would you rate the quality of facilities and services in this neighbourhood five years ago, or if you purchased this property within the last five years, at the time you purchased it?**

TERRIBLE			AVERAGE			EXCELLENT	
1	2	3	4	5	6	7	$\bar{x}$=5.070
1.9	2.4	6.0	25.1	24.7	21.2	18.8	n=890

FINALLY, WE NEED SOME BASIC INFORMATION ABOUT THE OPERATION OF YOUR BUILDING. AS WITH ALL OF THE PREVIOUS DATA GATHERED, THIS INFORMATION WILL BE KEPT STRICTLY CONFIDENTIAL.

25. **Is this building owned by:**

A PRIVATE CORPORATION(S)	1	17.0%	
A PRIVATE INDIVIDUAL	2	56.0%	
TWO OR MORE PRIVATE INDIVIDUALS	3	22.2%	
OTHER (Please specify) ______________..	4	4.8%	n=952

26. **Which of these occupational groups comes closest to describing your current occupation (or former, if retired)?**

FARMING, FISHING, FORESTRY, LOGGING, MINING AND QUARRYING OCCUPATIONS	1	4.3%	
LABOURER	2	7.9%	
SEMI-SKILLED	3	7.1%	
SKILLED TRADESMAN	4	11.3%	
SALES, SERVICE, CLERICAL	5	10.8%	
PROFESSIONAL	6	18.2%	
MANAGERIAL OR ADMINISTRATIVE	7	21.6%	
HOMEMAKER	8	6.3%	
OTHER (Please specify) ______________.	9	12.6%	n=890

27. **Is there a mortgage outstanding on your building?**

YES	1	62.5%	
NO	2	37.5%	n=928

28. **What is the approximate amount of the principal outstanding on the mortgage(s)?**

MORTGAGE PRINCIPAL ..... $ ☐☐☐,☐☐☐,☐☐☐.00 $\bar{x}$=$369,447.66
s=1,073,421.08
n=529

29. **What is your regular payment, excluding property taxes?**

MORTGAGE PAYMENT .... $ ☐☐☐,☐☐☐.00 $\bar{x}$=$4,723.06
s=$12,966.12
n=517

30. **How often is this payment made?**

ONCE A WEEK	1	2.5%	
ONCE A MONTH	2	93.3%	
OTHER (Please specify) ___________..	3	4.3%	n=563

31. **What were the approximate total annual property taxes for this building in 1985?** (Include the municipal, school, water and any special real estate taxes).

$ |_|_|_|_|,|_|_|_|_|.00 $\bar{x}=\$9,344.53$
s=$32,799.08
n=873

32. **What was the approximate total annual cost for utilities** (heat, light and water) **for all units within this building in 1985?**

$ |_|_|_|_|,|_|_|_|_|.00 $\bar{x}=\$10,241.42$
s=$39,263.89
n=684

33.a) **If you were to sell this building now, for how much would you expect to sell it?**

$ |_|_|_|_|,|_|_|_|_|,|_|_|_|_|.00 $\bar{x}=\$420,104.72$
s=$1,837,634.19
n=786

33.b) **What percentage of your total investments and/or assets does this building represent?**

|_|_|_|_| % $\bar{x}=44.42\%$
s=30.68%
n=666

34. **Please note here any other comments you wish to make which you think may be of interest to our study.**

To complete this study, the Canada Mortgage and Housing Corporation (CMHC) wants to visit a variety of buildings to observe physical housing conditions and any renovations done in 1985. This would only take a short time and would be arranged by a CMHC building expert at a time convenient for you. We would like to visit one tenant's unit plus the common areas of the building. The information collected will be kept strictly confidential.

In appreciation of your time, we will be pleased to provide you with a copy of a CMHC housing publication on maintenance and repair.

PLEASE CHECK YES OR NO TO INDICATE YOUR INTEREST.

35.9% **YES,** telephone me so we can discuss a possible visit by a CMHC building expert.

Telephone Number: (   ) ____________________
(area code)

64.1% **NO,** I am not interested in having a CMHC building expert visit my rental building to observe its physical condition.

n=752

THANK YOU VERY MUCH FOR YOUR COOPERATION IN COMPLETING THIS QUESTIONNAIRE.

APPENDIX B
Field Report of RDD Sample Genration

DECIMA

REPORT TO THE
PROGRAM EVALUATION DIVISION OF
THE CANADA MORTGAGE
AND
HOUSING CORPORATION

TECHNICAL SUMMARY
#1668
AUGUST 1986

TECHNICAL SUMMARY

A. Overview

The interviewing for this survey was conducted throughout the country during the time period of June 4 to July 22, 1986. As shown in Table 1, our goal of 20,913 respondents was marginally surpassed as 21,260 interviews were actually conducted. The extra interviews were primarily done to ensure that an adequate number of legible addresses were available, as this was a problem early on in the study and questionnaires were returned to field to alleviate this problem. The random sample used for this survey was disproportionate to the population, with over samples done in the Maritime provinces to enhance analysis.

Within the total sample, 76.5% of the respondents were owners, while 23.7% of the sample rented their homes. While this is a lower percent of renters than forseen in the original proposal, the primary reasons for this include:

- The exclusion of high rise apartments;
- The exclusion of publicly owned rental housing;
- The more mobile nature of renters and therefore, more difficult to locate for interviews; and
- A decrease across the country in low level rental buildings.

While our data does not explain the actual impact of all these potential reasons for the lower percent of renters, the data does examine the questions of low rise buildings and the exclusion of publicly owned housing. It is shown that out of the total general population, 5.2% were screened out due to the size of their building and 3% were in publicly owned rental housing. These figures are significant to the expected incidence levels for these screens.

Table 1

	TARGET ADDRESSES	ACTUAL ADDRESSES	ACTUAL OWNER ADDRESSES	ACTUAL RENTER ADDRESSES	% RENTER EXPECTED	% RENTER ACTUAL	RENTER GIVING LANDLORD ADDRESS	% LANDLORDS
British Columbia	3,532	3,556	2,613	943	36	27	379	40
Alberta	2,233	2,326	1,781	545	37	23	364	63
Saskatchewan	1,116	1,160	954	206	27	18	97	47
Manitoba	1,117	1,203	972	231	34	19	126	55
Ontario	3,340	3,392	2,656	736	37	22	459	62
Quebec	4,501	[illegible]536	2,980	1,556	37	34	1,008	65
New Brunswick	1,472	[illegible]71	1,238	233	27	16	102	44
Nova Scotia	1,775	[illegible]74	1,438	336	30	19	216	64
Prince Edward Island	660	659	544	115	26	17	81	70
Newfoundland	1,167	1,183	1,088	95	21	8	48	51
TOTALS	20,913	21,260	16,264	4,996	31	23	2,880	58

Also evident in Table 1 is that we received some landlord address information from an average of 58% of the renters, however, this figure should be qualified. As one may expect, it seems that renters have varying degrees of knowledge about their landlords which are directly related to the operation of the building. For example, some renters reported that their only contact was by mailing the rent cheque to an address or slipping it under a door. There are respondents who only knew a first or last name and, there is confusion between a landlord and the superintendent or janitor of the building. Interviewers were instructed to record any and all pieces of information the respondent was able to give, which in a considerable number of cases, was minimal. Therefore, while 58% of the renters gave some, it is estimated that approximately only 45-50% of the landlord information is complete enough to be immediately serviceable. Evenso, this meets, if not surpasses the expectations for the landlord survey, which had been that 40% would be immediately serviceable. We are not able to explain the variance between provinces on the landlord information, but perhaps it is partially due to a higher than average amount of renter mobility and the size of rental units.

B. Respondents Lost at Screens

The respondents who were lost at Screens A to E and Q2 are not considered refusals as they did not meet with the conditions of the survey. (A complete listing of all the various screens used is found in the Appendix.)

Excluding the age eligibility and home phone number screens asked in all surveys, the series of screens, C-E and Q2 eliminated approximately 3,428 would-be respondents. Screen C - "Is your home or the building you live in four stories or lower?" averaged 7% across the country, being the greatest obstacle in locating respondents.

Table 2

LOST AT SCREENS

	BUILDING MORE THAN 4 STORIES	NOT SELF CONTAINED DWELLING	RESIDENT LESS THAN 6 MONTHS	PUBLIC LANDLORD	TOTAL LOST	% OF ALL CONTACTS
British Columbia	494	104	108	219	925	21
Alberta	126	26	16	86	254	10
Saskatchewan	55	23	25	96	199	15
Manitoba	151	30	22	104	307	20
Ontario	438	54	50	76	618	15
Quebec	268	86	91	147	592	12
New Brunswick	18	34	66	51	169	10
Nova Scotia	77	32	45	41	195	10
Prince Edward Island	8	18	18	32	76	10
Newfoundland	24	23	11	35	93	7
TOTAL	1,659	430	452	887	3,428	14

This screen (C) was a particular problem among British Columbia, Manitoba and Ontario residents, and less so in the Maritime provinces. Among the renters, the screen for private rental as opposed to government corporations eliminated approximately 4%, which is statistically within the expected incidence of on this question. Screens D (is your home a self-contained dwelling?) and E (do you live there more than six months of the year?) eliminated 2% and 1% respectively, across the country.

C. Refusal Rate

Table 3

REFUSALS

	TOTAL ASKED ADDRESSES	TOTAL REFUSING	% REFUSING	OWNER ASKED ADDRESS	OWNER REFUSING	% OWNER REFUSING	RENTER ASKED ADDRESS	RENTER REFUSING	% REFUSING
British Columbia	5,591	2,035	36	4,082	1,469	36	1,509	566	38
Alberta	2,989	663	22	2,268	500	20	721	163	23
Saskatchewan	1,475	324	22	1,230	273	22	245	51	21
Manitoba	1,568	365	23	1,286	314	24	282	51	18
Ontario	4,425	924	21	3,422	740	22	1,003	184	20
Quebec	5,694	1,158	20	3,700	720	19	1,994	438	22
New Brunswick	2,015	544	27	1,657	419	25	358	125	35
Nova Scotia	2,330	556	24	1,872	434	23	458	122	27
Prince Edward Island	834	175	21	692	148	21	142	27	19
Newfoundland	1,442	359	25	1,292	307	24	150	52	35
TOTAL	28,363	7,103		21,501	5,324		6,862	1,779	

The term "refusal" is defined as a respondent who fulfilled the criteria set out in the screens yet refused to give their name and address to be mailed a questionnaire. These are not respondents who refused to answer the screening questions and, in fact approximately 8% of all those contacted fall into this category. The refusal rate expected at the outset of this survey was 10%, meaning that 10% of all those contacted who fulfilled the screened conditions would refuse to participate in the survey. The actual refusal rate overall was approximately 24% of the eligible respondents. The rate was particularly high in British Columbia and New Brunswick, and in general, added considerably to the field time necessary to complete the study.

The refusal rate between the owners and renters was similar to the proportionate ratio between those two groups. Generally, owners were more likely to refuse in Saskatchewan, Manitoba and Ontario, while renters were slightly more likely to refuse in Quebec and the Maritimes.

D. Reason for Refusals

The respondents who fulfilled the criteria for the survey, but then refused to give their name and address were subsequently asked why they were reluctant to take part? With all the refusal respondents as the universe, a total of 2,000 refusers were chosen from across the country. The disproportionate sample consisted of a random selection of 10% of the expected refusal rate for each province. Table 4 demonstrates the general reasons for declining to take part in the survey.

Table 4

PROFILE OF REFUSERS

						REASONS REFUSED				
	DPS	%	Own %	Rent %	% Lost @ Public Ldld	Not Interested	Don't Like Surveys	Suspicious Private	Too Busy	Other
British Columbia	326	16	86	14	6	52	13	11	10	14
Alberta	225	11	77	23	4	57	15	8	7	13
Saskatchewan	89	5	85	15	8	43	19	8	9	21
Manitoba	125	6	88	12	8	39	13	20	9	19
Ontario	317	16	78	22	2	48	13	15	8	16
Quebec	412	21	74	26	3	48	11	12	10	19
New Brunswick	136	7	87	13	3	39	14	9	15	23
Nova Scotia	184	9	80	20	2	51	14	17	3	15
Prince Edward Island	71	4	86	14	4	45	11	21	6	17
Newfoundland	117	6	80	20	3	56	10	15	6	13
TOTALS	2,000	100	82	18	4	48	13	14	8	17

As shown in Table 4, the primary reason for refusing to participate throughout the country was a lack of interest in the survey (49%). This response was particularly high in Alberta (57%) and Newfoundland (56%), and more likely to be lower in Manitoba and New Brunswick (39% each). Trailing behind were reasons which centered around a dislike of surveys (13%) especially in Saskatchewan (19%), and suspicion/privacy (13%) most notably in Prince Edward Island (21%) and Manitoba (20%). It should be noted that this was in spite of stress on the confidentiality by the interviewers at the beginning of each survey. Eight percent (8%) responded that they were "too busy" and the remaining 17% mentioned reasons such as moving/vacations (4%), health/age (3%), condition of home (2%) and language problems (1%).

Table 5 examines the reasons for refusing to participate by province in an owner/renter frame work.

Table 5

REASONS FOR REFUSAL BY PROVINCE — OWN/RENT

	NOT INTERESTED &	DON'T LIKE SURVEYS %	PRIVATE %	TOO BUSY %	OTHER %
British Columbia					
Own	51	13	12	10	14
Rent	55	11	4	11	19
Alberta					
Own	57	17	8	6	12
Rent	58	10	8	10	14
Saskatchewan					
Own	43	20	7	9	21
Rent	39	15	15	8	23
Manitoba					
Own	41	12	19	9	19
Rent	27	20	27	7	19
Ontario					
Own	48	14	16	6	16
Rent	47	10	9	13	21
Quebec					
Own	48	13	12	10	17
Rent	49	7	11	8	25
New Brunswick					
Own	39	14	9	17	21
Rent	39	17	6	--	38
Nova Scotia					
Own	50	16	18	3	13
Rent	56	6	14	6	18
Prince Edward Island					
Own	46	13	23	5	13
Rent	40	—	10	10	40
Newfoundland					
Own	60	9	15	5	11
Rent	42	17	17	8	16

A clear pattern does not emerge from this table, and hence, generalizations about reasons for refusing may not be made. However, there seems to be a slightly greater difference between owners and renters in the Prairie region than in other regions in the country. This may indicate that in areas of high home ownership, as in those provinces, the home owner has a marginally different profile than in places with lower ownership.

Overall a lack of interest was the principle reason for the absence of participants in this survey, and when coupled with a general dislike for the survey process and the violation of privacy (revealing the home address), many would-be respondents declined.

APPENDIX A

A.	Are you 16 years of age or older and a resident of Canada?	YES (CONTINUE)................A NO (ASK TO SPEAK TO ELIGIBLE RESPONDENT, IF STILL "NO," THANK AND TERMINATE)........B	
			DO NOT CODE
B.	Have I reached you at your home phone number?	YES (CONTINUE)................A NO (ASK TO SPEAK TO ELIGIBLE RESPONDENT, IF STILL "NO," THANK AND TERMINATE)........B	

Now, I have a few basic questions about your home.

C.	Is your home or the building you live in four stories or lower?	YES............................A NO (THANK AND TERMINATE)......B	
D.	Is your home a self-contained dwelling or does it have common dining quarters or other shared facilities?	SELF-CONTAINED.................A NOT SELF-CONTAINED (THANK AND TERMINATE)..............B	
E.	Do you live there more than six months of the year?	YES............................A NO (THANK AND TERMINATE)......B	
			START CARD #1
	Do you own or rent your home? (IF RESPONDENT SAYS HE/SHE LIVES WITH PARENTS, ASK: Do your parents own or rent your home?)	OWN (SKIP TO F)...............1* RENT (GO TO Q2)...............2	1__________

IF SAYS "RENT" IN Q1, ASK:

Do you rent your home from a private landlord or corporation, or from a local government or some form of co-operative?	PRIVATE/CORPORATION (GO TO F)................1 GOVERNMENT/CO-OPERATIVE (THANK AND TERMINATE).....B	.2__________

F. The Canada Mortgage and Housing Corporation of the government of Canada is asking a limited number of people in this community to complete a short CONFIDENTIAL questionnaire sent to them by mail. Could I take your name and address, or that of the person best qualified to complete it, so that we could send one to your home. In return for agreeing to participate in the survey, you will receive a useful publication about home security.

YES (WRITE NAME AND ADDRESS NEXT PAGE)..........................1
NO (GO TO Q3)..2

IF RESPONDENT APPEARS HESITANT TO GIVE NAME AND ADDRESS SAY: "IF YOU DON'T HAVE TIME TO GIVE ME YOUR NAME AND ADDRESS NOW I CAN CALL BACK AT A MORE CONVENIENT TIME."

NAME ______________________________

ADDRESS ______________________ APT NUMBER _______

CITY ______________ PROVINCE ________________

POSTAL CODE __________ TELEPHONE NUMBER (_____)______

IF Q1 IS ANSWERED "RENT" AND RESPONDENT GIVES NAME, SKIP TO G

ANYONE WHO REFUSES AFTER PROBE TO GIVE NAME AND ADDRESS ASK:

As a part of the study I've been asked to make a note as to why people might be reluctant to take part. Would you mind telling me? (DO NOT READ LIST)

NO REASON/NOT INTERESTED...01
TOO BUSY...................02
LANGUAGE PROBLEM...........03
NO SELF-BENEFIT............04
DON'T LIKE SURVEYS 05
COMMENT RELATED TO
CONDITION OF HOME........06
OTHER (SPECIFY)............XX

____

THANK AND TERMINATE

3-4 __________

IF Q1 IS ANSWERED "RENT" AND GIVES NAME AND ADDRESS, ASK:

G. **Could you also provide me with the name and address and telephone number of the owner or manager of the building so that we may contact him or her concerning our study? I can hold on if you have to look for the information. (If no response, ask for the name of the property management company taking care of the building or a building manager.)**

IF RESPONDENT HAS ONLY LIMITED INFORMATION TAKE WHATEVER IS AVAILABLE.

NAME ______________________________

ADDRESS ____________________ **APT NUMBER** ______

CITY ____________________ **PROVINCE** ____________

POSTAL CODE __________ **TELEPHONE NUMBER (** ____ **)** __________

RECORD LANGUAGE FOR MAIL QUESTIONNAIRE	ENGLISH........................1 FRENCH.........................2	5 ________

IF REFUSES TO PARTICIPATE, NOTE LANGUAGE OF INTERVIEW

Province of Interview	____________________	6-7 ________

Thank you, we will be sending you a questionnaire in the mail. END CARD #1

INTERVIEWER'S NAME ______________________________

DATE: ____________________

APPENDIX C.1
Survey Overview

APPENDIX C.2
Non-Response Survey for Landlords

A. SURVEY OVERVIEW

Decima Research is pleased to present to the Canada Mortgage and Housing Corporation (CMHC), the results for a study designed to meet the following objectives:

- To contact non respondents to the CMHC housing questionnaire;
- To inquire about reasons behind the non response;
- To determine the level of repairs done to the homes of non-respondents in the past year.

Senior Research Consultant and principal investigator for this study was Michael Sullivan who was assisted in the various phases of research and analysis by Mary Ellen Bernard.

1. Sample Selection

The population consists of all respondents who agreed to participate in the original CMHC study but failed to return the housing questionnaire. These non-respondents constituted the sample frame.

Table A presents the total number of non respondents surveyed in each province, followed by the percentages of the total sample by province. The next three columns represent the number of landlord, tenent, and homeowners interviews.

Table A

SAMPLE STRATA

	TOTAL	% OF TOTAL SAMPLE	LANDLORD	TENENT	HOMEOWNER
REGIONS					
British Columbia	111	12.3	35	35	41
Alberta	73	8.1	24	20	29
Saskatchewan	58	6.4	18	23	17
Manitoba	49	5.4	16	17	16
Ontario	185	20.6	66	57	62
Quebec	296	32.9	100	95	101
New Brunswick	34	3.8	12	10	12
Nova Scotia	45	5.0	15	19	11
Prince Edward Island	20	2.2	6	4	10
Newfoundland	29	3.2	8	20	1
	900	100	300	300	300

The names and telephone numbers of non-respondents represented the sample for the survey. The availability of names and phones determined the distribution of interviews in terms of tenents, homeowners, and landlords. However, minimal regional quotas were set to ensure a national distribution which would lend itself to analysis of the results.

2. Field Procedures

The interviews took place between December 12 and 20, 1986. Weekday interviewing was conducted between the hours of 5:30 and 10:00 p.m. Weekend interviewing was conducted between the hours of 10:00 a.m. and 5:00 p.m. The questionnaire contained 11 questions and took approximately three minutes to complete. Fifteen percent (15%) of all interviews were monitored while in progress for procedure and content from an extension monitor. All interviews were carefully edited as soon as they were completed to ensure that no questions were omitted and that skip-patterns were followed correctly.

Experienced telephone interviewers were used to collect the data. A briefing was held by the Field Supervisor and the Research Analyst was present to answer questions or clarify procedures. The Field Supervisor first read the questionnaire to the interviewers, thereby ensuring that pronunciation would be correct and uniform, and secondly, interviewer-respondent role-playing was used to illustrate skip and rotation patterns. The interviewers then had an opportunity to ask questions.

On the first evening in the field, the Research Analyst listened to the interviewers on an extension monitor. The monitor prevents the interviewer and respondent from knowing they are being listened to. This ensured that the skip and rotation patterns were followed correctly and that there were no questions causing interviewers any particular difficulty. When an error was caught, the interviewer was briefed again and the respondent was called back in order to correct the questionnaire.

3. Coding

The questionnaires were coded and the data were entered by experienced Decima personnel. The following standard procedures were followed:

- An initial briefing;
- Supervision of trained staff; and
- Verification of 15% of each coder's work.

Using the first 25% of completed questionnaires in each stratum, codes were constructed for the open-end questions by sorting and writing out the responses into independent categories. The Research Analyst checked all categories for completeness and consistency.

4. Data Processing

The entry and processing of the data were carried out on-site using Decima's Digital PDP 11/44 computer. Decima's interactive software system, designed specifically for survey analysis, has a robust data entry facility, which permits cleaning of the data, including out-of-range values and skip-pattern errors, as well as other logic errors. The fully cleaned data were then summarized into aggregate tables.

5. Confidence Limits and Validation

The sample of 900 cases produces results which are accurate for the population of non-respondents to the original CMHC survey as a whole within ±3.3 percentage points 95 out of 100 times.

While the most sophisticated procedures have been used to collect and analyze the information presented herein, it must be remembered that surveys are not predictions. They are designed to measure public opinion within identifiable statistical limits of accuracy at specific points in time. This survey is in no way a prediction of opinion or behaviour at any future point in time.

CANADA MORTGAGE AND HOUSING CORPORATION
NATIONAL HOUSING STUDY NON-RESPONSE SURVEY FOR LANDLORDS

Hello, my name is ____________________ and I am calling (long distance) on behalf of the Canada Mortgage and Housing Corporation, may I speak to (NAME INDICATED ON CONTACT SHEET)

IF THE LANDLORD IS NOT AVAILABLE LEAVE MESSAGE AND ATTEMPT TO SET UP AN APPOINTMENT.

ONCE THE LANDLORD IS CONTACTED:

Hello, my name is ________________________ and I am calling (long distance) on behalf of the Canada Mortgage and Housing Corporation. Recently you were sent a questionnaire in which we asked you to assess the physical condition of your building located at ____ and to identify any renovation work you may have completed in 1985.

1. **Do you recall receiving a questionnaire?**

YES 1

NO 2
DK/NR 9

IF NO, TERMINATE INTERVIEW AND THANK THE RESPONDENT FOR THEIR TIME.

2. **The survey is now over and the response has been very good, but we didn't receive a completed questionnaire from you. We would like to know if there was any particular reason why you did not complete the questionnaire.** (Probe if necessary.)

NO/NOT INTERESTED/TOO BUSY 1
TOO LONG 2
LANGUAGE PROBLEM 3
ABSENT, AWAY ON VACATION, BUSINESS, ETC. 4
INELIGIBLE (didn't think survey applied to them). 5

DO NOT OWN THAT PROPERTY .... 6 TERMINATE INTERVIEW

INFORMATION REQUESTED TOO PERSONAL 7
OTHER (specify) ________________________________ 8

To ensure the accuracy of our study, it is very important for us to be aware of the housing conditions of those who chose not to return a questionnaire. We were wondering if you could answer two questions about this rental building.

3. **Is this rental building in need of any "repairs" (please don't consider any remodelling, additions, conversions or energy improvements that you would like to do)? By "repairs" we mean one of three condition ratings:** (Read list.)

YES, MAJOR REPAIRS ARE NEEDED (to correct, for example, corroded pipes, damaged electrical wiring, sagging floors) 1

YES, MINOR REPAIRS ARE NEEDED (to correct, for example, small cracks in interior walls and ceilings, broken light fixtures and switches, leaking sink) 2

NO, ONLY REGULAR MAINTENANCE IS NEEDED (for example, painting, leaking faucets) 3

4. **Different landlords do varying amounts and types of renovation work during a year. In 1985, did you do any repairs or improvements on this rental building?**

YES 1

NO WORK DONE 2

We would also like to ask four questions about yourself. This information will be kept strictly confidential and will be used only for statistical analysis.

5. **Which one of the following categories best describes your current employment status?** (Circle one number only.)

EMPLOYED FULL-TIME 1
EMPLOYED PART-TIME 2
SELF-EMPLOYED 3
UNEMPLOYED 4
RETIRED 5
FULL-TIME HOMEMAKER 6
FULL-TIME STUDENT 7

6. **What is the highest level of formal education which you have completed?** Circle one number only.

PRIMARY SCHOOL 1
HIGH SCHOOL 2
SOME COMMUNITY COLLEGE 3
COMMUNITY COLLEGE GRADUATE 4
SOME UNIVERSITY 5
PROFESSIONAL CERTIFICATE 6
UNIVERSITY GRADUATE 7
POST GRADUATE 8

7. **What is your year of birth?**

1 ___ ___ ___

8. **Considering all sources, what was your approximate total household income in 1985? Please estimate and round to the nearest thousand dollars.**

$ ☐☐☐ , ☐☐☐ .00

DO NOT ASK:

Sex of respondent	Male 1	Language	English 1
	Female 2		French 2

APPENDIX D.1
Record Layout -- Homeowners

APPENDIX D.2
Record Layout -- Tenants

APPENDIX D.3
Record Layout -- Landlords

RECORD LAYOUT
CMHC KEYPUNCHED SURVEY DATA

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
	1	1	7	1-7	Sequential questionnaire ID	SEQNUM1	
	2	1	1	9	Mail-out wave	WAVE	
	3	1	1	10	Record number = 1	RECORD1	
	4	1	4	11-14	Date received	DATE	
1	5	1	1	15	Type of building	TYPBUILD	1,2
2.a)	6	1	2	16-17	Number of rooms	NUMROOM	
b)	7	1	2	18-19	Number of bedrooms	NUMBED	
3.a)	8	1	1	20	Number of complete bathrooms	BATHROOM	
b)	9	1	1	21	Number of half bathrooms	HALFBATH	
4	10	1	1	22	Have a complete kitchen	KITCHEN	1,2
5.i)	11	1	1	23	Principal fuel used (1 only)	PRINFUEL	1-7
ii)	12	1	1	24	Secondary fuel used (1 only)	SECFUEL	1-7
6.i)	13	1	1	25	Principal heating equipment (1 only)	PRINHEAT	1-7
ii)	14	1	1	26	Secondary heating equipment (1 only)	SECHEAT	1-7
7	15	1	3	27-29	Year building was built	YRBUILT	
8	16	1	1	30	How long lived here	LIVE	1-6
9	17	1	1	31	Building a heritage property	HERITAGE	1,2,9
10	18	1	1	32	Dwelling in need of repairs	REPAIR	1-3
11	19	1	1	33	Number of heating failures	HEATFAIL	1-3,9
12	20	1	1	34	Number of plumbing failures	PLUMFAIL	1-3,9
13.a)1)	21	1	1	35	Sitework	SITEWORK	1-7,9
2)	22	1	1	36	Outside walls	OUTWALL	1-7,9
3)	23	1	1	37	Roof	ROOF	1-7,9
4)	24	1	1	38	Chimney	CHIMNEY	1-7,9
5)	25	1	1	39	Doors, windows	DOORS	1-7,9
6)	26	1	1	40	Attached structures	ATSTRUCT	1-7,9
7)	27	1	1	41	Finished carpentry	FINCARP	1-7,9
8)	28	1	1	42	Flooring	FLOORING	1-7,9
9)	29	1	1	43	Drywall/plaster	DRYWALL	1-7,9
10)	30	1	1	44	Wall surfaces	WALLSURF	1-7,9
11)	31	1	1	45	Electrical	ELECTRIC	1-7,9
12)	32	1	1	46	Heating/cooling	HEATING	1-7,9
13)	33	1	1	47	Plumbing	PLUMBING	1-7,9
14)	34	1	1	48	Insulation	INSUL	1-7,9
15)	35	1	1	49	Other items	OTHITEM	1-7,9
b)	36	1	1	50	Do any renovation work in 1985?	ANYRENOV	1,2
c)	37	1	2	51-52	No renovation was needed	NORENOV	01
	38	1	2	53-54	Other business more important	OTHBUS	02
	39	1	2	55-56	Workers too busy	TOOBUSY	03

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
13.c)	40	1	2	57-58	Too much government red tape	REDTAPE	04
	41	1	2	59-60	Property taxes might increase	TAXES	05
	42	1	2	61-62	Too costly	TOOCOST	06
	43	1	2	63-64	Interest rates too high	INTRATE	07
	44	1	2	65-66	Loan terms unsuitable	LOANBAD	08
	45	1	2	67-68	Loan request turned down	TURNDOWN	09
	46	1	2	69-70	Other reasons for not renovating	OTHREA	10
14.a) i)	47	1	1	71	Sitework - repairs	DRIVREP	1
	48	1	1	72	Sitework - improvements	DRIVIMP	2
	49	1	1	73	Sitework - maintenance	DRIVMNT	3
	50	1	1	74	Sitework - paid a firm	DRIVFIR	1
	51	1	1	75	Sitework - paid for materials	DRIVMAT	2
	52	1	1	76	Sitework - paid for labour	DRIVLAB	3
	53	2	7	1-7	Sequential questionnaire ID	SEQNUM2	
	54	2	1	8	Record number = 2	RECORD2	
ii)	55	2	1	9	Outside wall/structure - repair	STRUCREP	1
	56	2	1	10	Outside wall/structure - improvements	STRUCIMP	2
	57	2	1	11	Outside wall/structure - maintenance	STRUCMNT	3
	58	2	1	12	Outside wall/structure - paid a firm	STRUCFIR	1
	59	2	1	13	Outside wall/structure - paid for materials	STRUCMAT	2
	60	2	1	14	Outside wall/structure - paid for labour	STRUCLAB	3
iii)	61	2	1	15	Outside wall/wood - repairs	WOODREP	1
	62	2	1	16	Outside wall/wood - improvements	WOODIMP	2
	63	2	1	17	Outside wall/wood - maintenance	WOODMNT	3
	64	2	1	18	Outside wall/wood - paid a firm	WOODFIR	1
	65	2	1	19	Outside wall/wood - paid for materials	WOODMAT	2
	66	2	1	20	Outside wall/wood - paid for labour	WOODLAB	3
iv)	67	2	1	21	Outside wall/other - repairs	OUTSREP	1
	68	2	1	22	Outside wall/other - improvements	OUTSIMP	2
	69	2	1	23	Outside wall/other - maintenance	OUTSMNT	3

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
14.a) iv)	70	2	1	24	Outside wall/other - paid a firm	OUTSFIR	1
	71	2	1	25	Outside wall/other - paid for materials	OUTSMAT	2
	72	2	1	26	Outside wall/other - paid for labour	OUTSLAB	3
v)	73	2	1	27	Roof/gutters - repairs	GUTTREP	1
	74	2	1	28	Roof/gutters - improvements	GUTTIMP	2
	75	2	1	29	Roof/gutters - maintenance	GUTTMNT	3
	76	2	1	30	Roof/gutters - paid a firm	GUTTFIR	1
	77	2	1	31	Roof/gutters - paid for materials	GUTTMAT	2
	78	2	1	32	Roof/gutters - paid for labour	GUTTLAB	3
vi)	79	2	1	33	Roof/coverings - repairs	COVREP	1
	80	2	1	34	Roof/coverings - improvements	COVIMP	2
	81	2	1	35	Roof/coverings - maintenance	COVMNT	3
	82	2	1	36	Roof/coverings - paid a firm	COVFIR	1
	83	2	1	37	Roof/coverings - paid for materials	COVMAT	2
	84	2	1	38	Roof/coverings - paid for labour	COVLAB	3
vii)	85	2	1	39	Chimney - repairs	CHIMREP	1
	86	2	1	40	Chimney - improvements	CHIMIMP	2
	87	2	1	41	Chimney - maintenance	CHIMMNT	3
	88	2	1	42	Chimney - paid a firm	CHIMFIR	1
	89	2	1	43	Chimney - paid for materials	CHIMMAT	2
	90	2	1	44	Chimney - paid for labour	CHIMLAB	3
viii)	91	2	1	45	Doors/windows - repairs	WINDREP	1
	92	2	1	46	Doors/windows - improvements	WINDIMP	2
	93	2	1	47	Doors/windows - maintenance	WINDMNT	3
	94	2	1	48	Doors/windows - paid a firm	WINDFIR	1
	95	2	1	49	Doors/windows - paid for materials	WINDMAT	2
	96	2	1	50	Doors/windows - paid for labour	WINDLAB	3
ix)	97	2	1	51	Steps/porches - repairs	STEPREP	1
	98	2	1	52	Steps/porches - improvements	STEPIMP	2
	99	2	1	53	Steps/porches - maintenance	STEPMNT	3
	100	2	1	54	Steps/porches - paid a firm	STEPFIR	1
	101	2	1	55	Steps/porches - paid for materials	STEPMAT	2
	102	2	1	56	Steps/porches - paid for labour	STEPLAB	3

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
14.b)i)	103	2	1	57	Carpentry/floors - repairs	HFLORREP	1
	104	2	1	58	Carpentry/floors - improvements	HFLORIMP	2
	105	2	1	59	Carpentry/floors - maintenance	HFLORMNT	3
	106	2	1	60	Carpentry/floors - paid a firm	HFLORFIR	1
	107	2	1	61	Carpentry/floors - paid for materials	HFLORMAT	2
	108	2	1	62	Carpentry/floors - paid for labour	HFLORLAB	3
ii)	109	2	1	63	Carpentry/walls - repairs	HWALLREP	1
	110	2	1	64	Carpentry/walls - improvements	HWALLIMP	2
	111	2	1	65	Carpentry/walls - maintenance	HWALLMNT	3
	112	2	1	66	Carpentry/walls - paid a firm	HWALLFIR	1
	113	2	1	67	Carpentry/walls - paid for materials	HWALLMAT	2
	114	2	1	68	Carpentry/walls - paid for labour	HWALLLAB	3
iii)	115	2	1	69	Carpentry/doors - repairs	HDOORREP	1
	116	2	1	70	Carpentry/doors - improvements	HDOORIMP	2
	117	2	1	71	Carpentry/doors - maintenance	HDOORMNT	3
	118	2	1	72	Carpentry/doors - paid a firm	HDOORFIR	1
	119	2	1	73	Carpentry/doors - paid for materials	HDOORMAT	2
	120	2	1	74	Carpentry/doors - paid for labour	HDOORLAB	3
iv)	121	2	1	75	Carpentry/shelves - repairs	HSHELREP	1
	122	2	1	76	Carpentry/shelves - improvements	HSHELIMP	2
	123	2	1	77	Carpentry/shelves - maintenance	HSHELMNT	3
	124	2	1	78	Carpentry/shelves - paid a firm	HSHELFIR	1
	125	2	1	79	Carpentry/shelves - paid for materials	HSHELMAT	2
	126	2	1	80	Carpentry/shelves - paid for labour	HSHELLAB	3
	127	3	7	1-7	Sequential questionnaire ID	SEQNUM3	
	128	3	1	8	Record number = 3	RECORD3	

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
14.b)v)	129	3	1	9	Drywall/plaster - repairs	HDRYREP	1
	130	3	1	10	Drywall/plaster - improvements	HDRYIMP	2
	131	3	1	11	Drywall/plaster - maintenance	HDRYMNT	3
	132	3	1	12	Drywall/plaster - paid a firm	HDRYFIR	1
	133	3	1	13	Drywall/plaster - paid for materials	HDRYMAT	2
	134	3	1	14	Drywall/plaster - paid for labour	HDRYLAB	3
vi)	135	3	1	15	Wall surfaces/paint - repairs	HPANTREP	1
	136	3	1	16	Wall surfaces/paint - improvements	HPANTIMP	2
	137	3	1	17	Wall surfaces/paint - maintenance	HPANTMNT	3
	138	3	1	18	Wall surfaces/paint - paid a firm	HPANTFIR	1
	139	3	1	19	Wall surfaces/paint - paid for materials	HPANTMAT	2
	140	3	1	20	Wall surfaces/paint - paid for labour	HPANTLAB	3
vii)	141	3	1	21	Flooring/hardwood - repairs	HHARDREP	1
	142	3	1	22	Flooring/hardwood - improvements	HHARDIMP	2
	143	3	1	23	Flooring/hardwood - maintenance	HHARDMNT	3
	144	3	1	24	Flooring/hardwood - paid a firm	HHARDFIR	1
	145	3	1	25	Flooring/hardwood - paid for materials	HHARDMAT	2
	146	3	1	26	Flooring/hardwood - paid for labour	HHARDLAB	3
viii)	147	3	1	27	Flooring/carpet - repairs	HCARPREP	1
	148	3	1	28	Flooring/carpet - improvements	HCARPIMP	2
	149	3	1	29	Flooring/carpet - maintenance	HCARPMNT	3
	150	3	1	30	Flooring/carpet - paid a firm	HCARPFIR	1
	151	3	1	31	Flooring/carpet - paid for materials	HCARPMAT	2
	152	3	1	32	Flooring/carpet - paid for labour	HCARPLAB	3
ix)	153	3	1	33	Flooring/tile - repairs	HTILEREP	1
	154	3	1	34	Flooring/tile - improvements	HTILEIMP	2
	155	3	1	35	Flooring/tile - maintenance	HTILEMNT	3
	156	3	1	36	Flooring/tile - paid a firm	HTILEFIR	1
	157	3	1	37	Flooring/tile - paid for materials	HTILEMAT	2
	158	3	1	38	Flooring/tile - paid for labour	HTILELAB	3

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
14.c) i)	159	3	1	39	Electrical/lighting - repairs	HLIGHREP	1
	160	3	1	40	Electrical/lighting - improvements	HLIGHIMP	2
	161	3	1	41	Electrical/lighting - maintenance	HLIGHMNT	3
	162	3	1	42	Electrical/lighting - paid a firm	HLIGHFIR	1
	163	3	1	43	Electrical/lighting - paid for materials	HLIGHMAT	2
	164	3	1	44	Electrical/lighting - paid for labour	HLIGHLAB	3
ii)	165	3	1	45	Electrical/wiring - repairs	HWIREREP	1
	166	3	1	46	Electrical/wiring - improvements	HWIREIMP	2
	167	3	1	47	Electrical/wiring - maintenance	HWIREMNT	3
	168	3	1	48	Electrical/wiring - paid a firm	HWIREFIR	1
	169	3	1	49	Electrical/wiring - paid for materials	HWIREMAT	2
	170	3	1	50	Electrical/wiring - paid for labour	HWIRELAB	3
iii)	171	3	1	51	Heating/furnace - repairs	HFURNREP	1
	172	3	1	52	Heating/furnace - improvements	HFURNIMP	2
	173	3	1	53	Heating/furnace - maintenance	HFURNMNT	3
	174	3	1	54	Heating/furnace - paid a firm	HFURNFIR	1
	175	3	1	55	Heating/furnace - paid for materials	HFURNMAT	2
	176	3	1	56	Heating/furnace - paid for labour	HFURNLAB	3
iv)	177	3	1	57	Heating/fireplace - repairs	HFIREREP	1
	178	3	1	58	Heating/fireplace - improvements	HFIREIMP	2
	179	3	1	59	Heating/fireplace - maintenance	HFIREMNT	3
	180	3	1	60	Heating/fireplace - paid a firm	HFIREFIR	1
	181	3	1	61	Heating/fireplace - paid for materials	HFIREMAT	2
	182	3	1	62	Heating/fireplace - paid for labour	HFIRELAB	3
v)	183	3	1	63	Heating/ductwork - repairs	HDUCTREP	1
	184	3	1	64	Heating/ductwork - improvements	HDUCTIMP	2
	185	3	1	65	Heating/ductwork - maintenance	HDUCTMNT	3
	186	3	1	66	Heating/ductwork - paid a firm	HDUCTFIR	1

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
14.c)v)	187	3	1	67	Heating/ductwork - paid for materials	HDUCTMAT	2
	188	3	1	68	Heating/ductwork - paid for labour	HDUCTLAB	3
vi)	189	3	1	69	Plumbing/pipes - repairs	HPIPEREP	1
	190	3	1	70	Plumbing/pipes - improvements	HPIPEIMP	2
	191	3	1	71	Plumbing/pipes - maintenance	HPIPEMNT	3
	192	3	1	72	Plumbing/pipes - paid a firm	HPIPEFIR	1
	193	3	1	73	Plumbing/pipes - paid for materials	HPIPEMAT	2
	194	3	1	74	Plumbing/pipes - paid for labour	HPIPELAB	3
vii)	195	3	1	75	Plumbing/fixtures - repairs	HFIXREP	1
	196	3	1	76	Plumbing/fixtures - improvements	HFIXIMP	2
	197	3	1	77	Plumbing/fixtures - maintenance	HFIXMNT	3
	198	3	1	78	Plumbing/fixtures - paid a firm	HFIXFIR	1
	199	3	1	79	Plumbing/fixtures - paid for materials	HFIXMAT	2
	200	3	1	80	Plumbing/fixtures - paid for labour	HFIXLAB	3
	201	4	1	1-7	Sequential questionnaire ID	SEQNUM4	
	202	4	1	8	Record number = 4	RECORD4	
14.c)viii)	203	4	1	9	Plumbing/water heater - repairs	HHEATREP	1
	204	4	1	10	Plumbing/water heater - improvements	HHEATIMP	2
	205	4	1	11	Plumbing/water heater - maintenance	HHEATMNT	3
	206	4	1	12	Plumbing/water heater - paid a firm	HHEATFIR	1
	207	4	1	13	Plumbing/water heater - paid for materials	HHEATMAT	2
	208	4	1	14	Plumbing/water heater - paid for labour	HHEATLAB	3
ix)	209	4	1	15	Insulation/attic - repairs	HATICREP	1
	210	4	1	16	Insulation/attic - improvements	HATICIMP	2
	211	4	1	17	Insulation/attic - maintenance	HATICMNT	3
	212	4	1	18	Insulation/attic - paid a firm	HATICFIR	1
	213	4	1	19	Insulation/attic - paid for materials	HATICMAT	2
	214	4	1	20	Insulation/attic - paid for labour	HATICLAB	3

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
14.c)x)	215	4	1	21	Insulation/wall - repairs	HINSLREP	1
	216	4	1	22	Insulation/wall - improvements	HINSLIMP	2
	217	4	1	23	Insulation/wall - maintenance	HINSLMNT	3
	218	4	1	24	Insulation/wall - paid a firm	HINSLFIR	1
	219	4	1	25	Insulation/wall - paid for materials	HINSLMAT	2
	220	4	1	26	Insulation/wall - paid for labour	HINSLLAB	3
xi)	221	4	1	27	Insulation/doors - repairs	HINDRREP	1
	222	4	1	28	Insulation/doors - improvements	HINDRIMP	2
	223	4	1	29	Insulation/doors - maintenance	HINDRMNT	3
	224	4	1	30	Insulation/doors - paid a firm	HINDRFIR	1
	225	4	1	31	Insulation/doors - paid for materials	HINDRMAT	2
	226	4	1	32	Insulation/doors - paid for labour	HINDRLAB	3
xii)	227	4	1	33	Mechanical/other - repairs	HMECHREP	1
	228	4	1	34	Mechanical/other - improvements	HMECHIMP	2
	229	4	1	35	Mechanical/other - maintenance	HMECHMNT	3
	230	4	1	36	Mechanical/other - paid a firm	HMECHFIR	1
	231	4	1	37	Mechanical/other - paid for materials	HMECHMAT	2
	232	4	1	38	Mechanical/other - paid for labour	HMECHLAB	3
14.d)	233	4	1	39	Add any space or rooms to building	ADDSPACE	1,2
e)	234	4	1	40	Convert from non-housing to housing	CONVERT	1,2
15.	235	4	5	41-45	Amount paid to firms for labour	HFIRMPD	
	236	4	5	46-50	Materials paid for directly	HMATPD	
	237	4	5	51-55	Workers paid for directly	HWORKPD	
	238	4	5	56-60	Total cost of renovation work	HTOTCOST	
16.	239	4	1	61	Training courses	HCOURSES	1-8
	240	4	1	62	Pamphlets, written material	HBOOKLET	1-8
	241	4	1	63	Personal experience	HEXPER	1-8
	242	4	1	64	Word-of-mouth	HWORDOF	1-8
	243	4	1	65	Professional advice	HADVICE	1-8
17.	244	4	1	66	Someone hired to do work (√ =1, leave blank as blank)	HNOHIRE	1

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
17.	245	4	1	67	Quality of workmanship	HQUALWRK	1-7
	246	4	1	68	Quality of materials used	HQUALMAT	1-7
	247	4	1	69	Time to complete job	HCOMPLET	1-7
18.	248	4	1	70	Personal sources	SAVINGS	1,2
	249	4	1	71	Loan from a bank	BANK	1,2
	250	4	1	72	Mortgage	MORTGAG	1,2
	251	4	1	73	Loan from friend	FRIEND	1,2
	252	4	1	74	Residential Rehab. Ass. Program	RRAP	1,2
	253	4	1	75	Cdn. Oil Subtitution Prog.	COSP	1,2
	254	4	1	76	Cdn. Home Insulation Prog.	CHIP	1,2
	255	4	1	77	Other federal gov't program	FEDPROG	1,2
	256	4	1	78	Other government program	GOVPROG	1,2
	257	4	1	79	Other financial methods	OTHMEANS	1,2
	258	5	7	1-7	Sequential questionnaire ID	SEQNUM5	
	259	5	1	8	Record number = 5	RECORD5	
19.	260	5	1	9	Look better outside	OUTSIDE	1-7
	261	5	1	10	Look better inside	INSIDE	1-7
	262	5	1	11	Have a higher resale value	RESALE	1-7
	263	5	1	12	Make building safer	SAFER	1-7
	264	5	1	13	Less costly to heat	LESSCOST	1-7
	265	5	1	14	Less costly to maintain	LESSMNT	1-7
	266	5	1	15	Make building bigger	BIGGER	1-7
	267	5	1	16	More accessible to handicapped	ACCESS	1-7
	268	5	1	17	Meet health/safety regulations	REGULAT	1-7
	269	5	1	18	Other reasons for renovating	REASONS	1-7
20.a)	270	5	2	19-20	Work on sitework	WKSITE	01
	271	5	2	21-22	Work on walls	WKWALLS	02
	272	5	2	23-24	Work on roof, chimney	WKROOF	03
	273	5	2	25-26	Work on doors, windows	WKDOORS	04
	274	5	2	27-28	Work on carpentry	WKCARP	05
	275	5	2	29-30	Work on flooring	WKFLOOR	06
	276	5	2	31-32	Work on electrical systems	WKELECT	07
	277	5	2	33-34	Work on heating systems	WKHEAT	08
	278	5	2	35-36	Work on plumbing systems	WKPLUMB	09
	279	5	2	37-38	Work on insulation	WKINSUL	10
	280	5	2	39-40	Work on other areas	WKOTHER	11
	281	5	2	41-42	No plans to renovate	NOPLANS	12
b)	282	5	6	43-48	Amount plan to spend	AMTSPEND	
21.	283	5	1	49	Present facilities	PRESENT	1-7
22.	284	5	1	50	Facilities 5 years ago	OLDFAC	1-7
23.a)1)	285	5	2	51-52	Respondent age	PERSON1	
2)	286	5	2	53-54	Person 2 age	PERSON2	
	287	5	1	55	Relationship to respondent	RELAT2	1-4
3)	288	5	2	56-57	Person 3 age	PERSON3	
	289	5	1	58	Relationship to respondent	RELAT3	1-4

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
23.a)4)	290	5	2	59-60	Person 4 age	PERSON4	
	291	5	1	61	Relationship to respondent	RELAT4	1-4
5)	292	5	2	62-63	Person 5 age	PERSON5	
	293	5	1	64	Relationship to respondent	RELAT5	1-4
6)	294	5	2	65-66	Person 6 age	PERSON6	
	295	5	1	67	Relationship to respondent	RELAT6	1-4
7)	296	5	2	68-69	Person 7 age	PERSON7	
	297	5	1	70	Relationship to respondent	RELAT7	1-4
8)	298	5	2	71-72	Person 8 age	PERSON8	
	299	5	1	73	Relationship to respondent	RELAT8	1-4
23.b)	300	5	1	74	Household description	DESCRIPT	1-6
24.	301	5	1	75	Special physical structures	STRUCTUR	1-4
25.	302	5	1	76	Education level - respondent	EDUCRES	1-7
	303	5	1	77	Education level - spouse	EDUCSPO	0-7
26.	304	5	1	78	Cdn. native Indian?	NATIVE	1,2
27.	305	5	1	79	Occupation - respondent	OCCRES	1-9
	306	5	1	80	Occupation - spouse	OCCSPO	0-9
	307	6	7	1-7	Sequential questionnaire ID	SEQNUM6	
	308	6	1	8	Record number = 6	RECORD6	
28.	309	6	1	9	Employment status - respondent	EMPLRES	1-9
	310	6	1	10	Employment status - spouse	EMPLSPO	0-9
29.	311	6	1	11	Mortgage outstanding	MORTOUT	1,2
30.	312	6	6	12-17	Principal outstanding	PRINOUT	
31.	313	6	5	18-22	Mortgage payment	MORTPAY	
32.	314	6	1	23	How often payment is made	PAYMENT	1-3
33.	315	6	5	24-28	Amount of property taxes	AMTTAX	
34.	316	6	5	29-33	Cost of utilities	COSTUTIL	
35.	317	6	6	34-39	Selling price of dwelling	SELPRICE	
36.a)	318	6	6	40-45	Household income	INCOME	
b)	319	6	5	46-50	Monthly income	MONINCOM	
	320	6	1	51	Inspection or not (YES=1, NO=2)	INSPECT	1,2
	321	6	10	52-61	Telephone number	TELENO	
	322	6	2	63-64	Province of respondent	PROV	
	323	6	6	66-71	Postal code of respondent	POSTCODE	

RECORD LAYOUT
CMHC TENANT KEYPUNCHED DATA

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
	1	1	7	1-7	Sequential questionnaire ID	TSEQNUM1	
	2	1	1	9	Mail-out wave	TWAVE	
	3	1	1	10	Record number = 1	TRECORD1	
	4	1	4	11-14	Date received	TDATE	
1.a)	5	1	2	15-16	Number of rooms	TNUMROOM	
b)	6	1	2	17-18	Number of bedrooms	TNUMBED	
2.a)	7	1	1	19	Number of complete bathrooms	TBATHRM	
b)	8	1	1	20	Number of half bathrooms	THLFBATH	
3	9	1	1	21	Have a complete kitchen	TKITCHEN	1,2
4	10	1	1	22	How long lived here	TLIVE	1-6
5	11	1	1	23	Dwelling in need of repairs	TREPAIR	1-3
6	12	1	1	24	Number of heating failures	THEATFL	1-3,9
7	13	1	1	25	Number of plumbing failures	TPLUMFL	1-3,9
8	14	1	1	26	Overall exterior condition	EXTERIOR	1-7
9.a)1)	15	1	1	27	Finished carpentry	TFINCARP	1-7,9
2)	16	1	1	28	Flooring	TFLORING	1-7,9
3)	17	1	1	29	Drywall/plaster	TDRYWALL	1-7,9
4)	18	1	1	30	Wall surfaces	TWALSURF	1-7,9
5)	19	1	1	31	Electrical	TELECTR	1-7,9
6)	20	1	1	32	Heating/cooling	THEATING	1-7,9
7)	21	1	1	33	Plumbing	TPLUMING	1-7,9
8)	22	1	1	34	Insulation	TINSUL	1-7,9
9)	23	1	1	35	Other items	TOTHITEM	1-7,9
b)	24	1	1	36	Do any renovation work in 1985?	TANYREN	1,2
c)	25	1	2	37-38	Renovation not my responsability	NOTRESP	01
	26	1	2	39-40	No renovation work needed	TNORENOV	02
	27	1	2	41-42	Other reasons for not renovating	TOTHREA	03
10.a)i)	28	1	1	43	Carpentry/floors - repairs	TFLORREP	1
	29	1	1	44	Carpentry/floors - improvements	TFLORIMP	2
	30	1	1	45	Carpentry/floors - maintenance	TFLORMNT	3
	31	1	1	46	Carpentry/floors - paid a firm	TFLORFIR	1
	32	1	1	47	Carpentry/floors - paid for materials	TFLORMAT	2
	33	1	1	48	Carpentry/floors - paid for labour	TFLORLAB	3
ii)	34	1	1	49	Carpentry/walls - repairs	TWALLREP	1
	35	1	1	50	Carpentry/walls - improvements	TWALLIMP	2

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
10.a)ii)	36	1	1	51	Carpentry/walls - maintenance	TWALLMNT	3
	37	1	1	52	Carpentry/walls - paid a firm	TWALLFIR	1
	38	1	1	53	Carpentry/walls - paid for materials	TWALLMAT	2
	39	1	1	54	Carpentry/walls - paid for labour	TWALLLAB	3
iii)	40	1	1	55	Carpentry/shelves - repairs	TSHELREP	1
	41	1	1	56	Carpentry/shelves - improvements	TSHELIMP	2
	42	1	1	57	Carpentry/shelves - maintenance	TSHELMNT	3
	43	1	1	58	Carpentry/shelves - paid a firm	TSHELFIR	1
	44	1	1	59	Carpentry/shelves - paid for materials	TSHELMAT	2
	45	1	1	60	Carpentry/shelves - paid for labour	TSHELLAB	3
iv)	46	1	1	61	Carpentry/doors - repairs	TDOORREP	1
	47	1	1	62	Carpentry/doors - improvements	TDOORIMP	2
	48	1	1	63	Carpentry/doors - maintenance	TDOORMNT	3
	49	1	1	64	Carpentry/doors - paid a firm	TDOORFIR	1
	50	1	1	65	Carpentry/doors - paid for materials	TDOORMAT	2
	51	1	1	66	Carpentry/doors - paid for labour	TDOORLAB	3
v)	52	1	1	67	Drywall/plaster - repairs	TDRYREP	1
	53	1	1	68	Drywall/plaster - improvements	TDRYIMP	2
	54	1	1	69	Drywall/plaster - maintenance	TDRYMNT	3
	55	1	1	70	Drywall/plaster - paid a firm	TDRYFIR	1
	56	1	1	71	Drywall/plaster - paid for materials	TDRYMAT	2
	57	1	1	72	Drywall/plaster - paid for labour	TDRYLAB	3
vi)	58	1	1	73	Wall surfaces/paint - repairs	TPANTREP	1
	59	1	1	74	Wall surfaces/paint - improvements	TPANTIMP	2
	60	1	1	75	Wall surfaces/paint - maintenance	TPANTMNT	3
	61	1	1	76	Wall surfaces/paint - paid a firm	TPANTFIR	1

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
10.a)vi)	62	1	1	77	Wall surfaces/paint - paid for materials	TPANTMAT	2
	63	1	1	78	Wall surfaces/paint - paid for labour	TPANTLAB	3
	64	2	7	1-7	Sequential questionnaire ID	TSEQNUM2	
	65	2	1	8	Record number = 2	TRECORD2	
10.a)vii)	66	2	1	9	Flooring/hardwood - repairs	THARDREP	1
	67	2	1	10	Flooring/hardwood - improvements	THARDIMP	2
	68	2	1	11	Flooring/hardwood - maintenance	THARDMNT	3
	69	2	1	12	Flooring/hardwood - paid a firm	THARDFIR	1
	70	2	1	13	Flooring/hardwood - paid for materials	THARDMAT	2
	71	2	1	14	Flooring/hardwood - paid for labour	THARDLAB	3
viii)	72	2	1	15	Flooring/carpet - repairs	TCARPREP	1
	73	2	1	16	Flooring/carpet - improvements	TCARPIMP	2
	74	2	1	17	Flooring/carpet - maintenance	TCARPMNT	3
	75	2	1	18	Flooring/carpet - paid a firm	TCARPFIR	1
	76	2	1	19	Flooring/carpet - paid for materials	TCARPMAT	2
	77	2	1	20	Flooring/carpet - paid for labour	TCARPLAB	3
ix)	78	2	1	21	Flooring/tile - repairs	TTILEREP	1
	79	2	1	22	Flooring/tile - improvements	TTILEIMP	2
	80	2	1	23	Flooring/tile - maintenance	TTILEMNT	3
	81	2	1	24	Flooring/tile - paid a firm	TTILEFIR	1
	82	2	1	25	Flooring/tile - paid for materials	TTILEMAT	2
	83	2	1	26	Flooring/tile - paid for labour	TTILELAB	3
10.b)i)	84	2	1	27	Electrical/lighting - repairs	TLIGHREP	1
	85	2	1	28	Electrical/lighting - improvements	TLIGHIMP	2
	86	2	1	29	Electrical/lighting - maintenance	TLIGHMNT	3
	87	2	1	30	Electrical/lighting - paid a firm	TLIGHFIR	1
	88	2	1	31	Electrical/lighting - paid for materials	TLIGHMAT	2
	89	2	1	32	Electrical/lighting - paid for labour	TLIGHLAB	3

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
10.b)ii)	90	2	1	33	Electrical/wiring - repairs	TWIREREP	
	91	2	1	34	Electrical/wiring - improvements	TWIREIMP	2
	92	2	1	35	Electrical/wiring - maintenance	TWIREMNT	3
	93	2	1	36	Electrical/wiring - paid a firm	TWIREFIR	1
	94	2	1	37	Electrical/wiring - paid for materials	TWIREMAT	2
	95	2	1	38	Electrical/wiring - paid for labour	TWIRELAB	3
iii)	96	2	1	39	Heating/furnace - repairs	TFURNREP	1
	97	2	1	40	Heating/furnace - improvements	TFURNIMP	2
	98	2	1	41	Heating/furnace - maintenance	TFURNMNT	3
	99	2	1	42	Heating/furnace - paid a firm	TFURNFIR	1
	100	2	1	43	Heating/furnace - paid for materials	TFURNMAT	2
	101	2	1	44	Heating/furnace - paid for labour	TFURNLAB	3
iv)	102	2	1	45	Heating/fireplace - repairs	TFIREREP	1
	103	2	1	46	Heating/fireplace - improvements	TFIREIMP	2
	104	2	1	47	Heating/fireplace - maintenance	TFIREMNT	3
	105	2	1	48	Heating/fireplace - paid a firm	TFIREFIR	1
	106	2	1	49	Heating/fireplace - paid for materials	TFIREMAT	2
	107	2	1	50	Heating/fireplace - paid for labour	TFIRELAB	3
v)	108	2	1	51	Heating/ductwork - repairs	TDUCTREP	1
	109	2	1	52	Heating/ductwork - improvements	TDUCTIMP	2
	110	2	1	53	Heating/ductwork - maintenance	TDUCTMNT	3
	111	2	1	54	Heating/ductwork - paid a firm	TDUCTFIR	1
	112	2	1	55	Heating/ductwork - paid for materials	TDUCTMAT	2
	113	2	1	56	Heating/ductwork - paid for labour	TDUCTLAB	3
vi)	114	2	1	57	Plumbing/pipes - repairs	TPIPEREP	1
	115	2	1	58	Plumbing/pipes - improvements	TPIPEIMP	2
	116	2	1	59	Plumbing/pipes - maintenance	TPIPEMNT	3

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
10.b)vi)	117	2	1	60	Plumbing/pipes - paid a firm	TPIPEFIR	1
	118	2	1	61	Plumbing/pipes - paid for materials	TPIPEMAT	2
	119	2	1	62	Plumbing/pipes - paid for labour	TPIPELAB	3
vii)	120	2	1	63	Plumbing/fixtures - repairs	TFIXREP	1
	121	2	1	64	Plumbing/fixtures - improvements	TFIXIMP	2
	122	2	1	65	Plumbing/fixtures - maintenance	TFIXMNT	3
	123	2	1	66	Plumbing/fixtures - paid a firm	TFIXFIR	1
	124	2	1	67	Plumbing/fixtures - paid for materials	TFIXMAT	2
	125	2	1	68	Plumbing/fixtures - paid for labour	TFIXLAB	3
viii)	126	2	1	69	Plumbing/water heater - repairs	THEATREP	1
	127	2	1	70	Plumbing/water heater - improvements	THEATIMP	2
	128	2	1	71	Plumbing/water heater - maintenance	THEATMNT	3
	129	2	1	72	Plumbing/water heater - paid a firm	THEATFIR	1
	130	2	1	73	Plumbing/water heater - paid for materials	THEATMAT	2
	131	2	1	74	Plumbing/water heater - paid for labour	THEATLAB	3
ix)	132	2	1	75	Insulation/attic - repairs	TATICREP	1
	133	2	1	76	Insulation/attic - improvements	TATICIMP	2
	134	2	1	77	Insulation/attic - maintenance	TATICMNT	3
	135	2	1	78	Insulation/attic - paid a firm	TATICFIR	1
	136	2	1	79	Insulation/attic - paid for materials	TATICMAT	2
	137	2	1	80	Insulation/attic - paid for labour	TATICLAB	3
	138	3	1	1-7	Sequential questionnaire ID	TSEQNUM3	
	139	3	1	8	Record number = 3	TRECORD3	
10.b)x)	140	3	1	9	Insulation/wall - repairs	TINSLREP	1
	141	3	1	10	Insulation/wall - improvements	TINSLIMP	2
	142	3	1	11	Insulation/wall - maintenance	TINSLMNT	3
	143	3	1	12	Insulation/wall - paid a firm	TINSLFIR	1

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
10.b)x)	144	3	1	13	Insulation/wall - paid for materials	TINSLMAT	2
	145	3	1	14	Insulation/wall - paid for labour	TINSLLAB	3
xi)	146	3	1	15	Insulation/doors - repairs	TINDRREP	1
	147	3	1	16	Insulation/doors - improvements	TINDRIMP	2
	148	3	1	17	Insulation/doors - maintenance	TINDRMNT	3
	149	3	1	18	Insulation/doors - paid a firm	TINDRFIR	1
	150	3	1	19	Insulation/doors - paid for materials	TINDRMAT	2
	151	3	1	20	Insulation/doors - paid for labour	TINDRLAB	3
xii)	152	3	1	21	Mechanical/other - repairs	TMECHREP	1
	153	3	1	22	Mechanical/other - improvements	TMECHIMP	2
	154	3	1	23	Mechanical/other - maintenance	TMECHMNT	3
	155	3	1	24	Mechanical/other - paid a firm	TMECHFIR	1
	156	3	1	25	Mechanical/other - paid for materials	TMECHMAT	2
	157	3	1	26	Mechanical/other - paid for labour	TMECHLAB	3
11.	158	3	5	27-31	Amount paid to firms for labour	TFIRMPD	
	159	3	5	32-36	Materials paid for directly	TMATPD	
	160	3	5	37-41	Workers paid for directly	TWORKPD	
	161	3	5	42-46	Total cost of renovation work	TTOTCOST	
12.	162	3	1	47	Training courses	TCOURSES	1-8
	163	3	1	48	Pamphlets, written material	TBOOKLET	1-8
	164	3	1	49	Personal experience	TEXPER	1-8
	165	3	1	50	Word-of-mouth	TWORDOF	1-8
	166	3	1	51	Professional advice	TADVICE	1-8
13.	167	3	1	52	Someone hired to do work (✓=1, leave blank as blank)	TNOHIRE	1
	168	3	1	53	Quality of workmanship	TQUALWRK	1-7
	169	3	1	54	Quality of materials used	TQUALMAT	1-7
	170	3	1	55	Time to complete job	TCOMPLET	1-7
14.	171	3	1	56	Control of thermostat	CONTROL	1,2,9
15.	172	3	1	57	Temperature satisfactory	TEMPSAT	1-7,9
16.	173	3	1	58	Plan to move next 12 months	PLANMOVE	1,2
17.i)	174	3	1	59	Told to leave	TOLDLEAV	1-7
ii)	175	3	1	60	Rent was going to increase	RENTINC	1-7
iii)	176	3	1	61	Other reasons for moving	OTHMOVE	1-7
18.	177	3	1	62	Required to leave	REQLEAV	1-4
19.	178	3	1	63	Was there a rent increase	RENTUP	1,2

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
20.a)i)	179	3	4	64-67	Rent before renovation	BEFORE	
ii)	180	3	4	68-71	Rent after renovation	AFTER	
b)	181	3	1	72	Rent increase a financial problem	PROBLEM	1-7
21.a)	182	3	2	73-74	Work on carpentry	TWKCARP	01
	183	3	2	75-76	Work on flooring	TWKFLOOR	02
	184	3	2	77-78	Work on walls	TWKWALLS	03
	185	3	2	79-80	Work on electrical systems	TWKELECT	04
	186	4	7	1-7	Sequential questionnaire ID	SEQNUM4	
	187	4	1	8	Record number = 4	RECORD4	
21.a)	188	4	2	9-10	Work on heating systems	TWKHEAT	05
	189	4	2	11-12	Work on plumbing systems	TWKPLUMB	06
	190	4	2	13-14	Work on insulation	TWKINSUL	07
	191	4	2	15-16	Work on doors, windows	TWKDOORS	08
	192	4	2	17-18	Work on other areas	TWKOTHER	09
	193	4	2	19-20	No plans to renovate	TNOPLANS	10
b)	194	4	5	21-25	Amount plan to spend	TAMTSPND	
22.	195	4	1	26	Present facilities	TPRESENT	1-7
23.	196	4	1	27	Facilities 5 years ago	TOLDFAC	1-7
24.a)1)	197	4	2	28-29	Respondent age	TPERSON1	
2)	198	4	2	30-31	Person 2 age	TPERSON2	
	199	4	1	32	Relationship to respondent	TRELAT2	1-4
3)	200	4	2	33-34	Person 3 age	TPERSON3	
	201	4	1	35	Relationship to respondent	TRELAT3	1-4
4)	202	4	2	36-37	Person 4 age	TPERSON4	
	203	4	1	38	Relationship to respondent	TRELAT4	1-4
5)	204	4	2	39-40	Person 5 age	TPERSON5	
	205	4	1	41	Relationship to respondent	TRELAT5	1-4
6)	206	4	2	42-43	Person 6 age	TPERSON6	
	207	4	1	44	Relationship to respondent	TRELAT6	1-4
7)	208	4	2	45-46	Person 7 age	TPERSON7	
	209	4	1	47	Relationship to respondent	TRELAT7	1-4
8)	210	4	2	48-49	Person 8 age	TPERSON8	
	211	4	1	50	Relationship to respondent	TRELAT8	1-4
24.b)	212	4	1	51	Household description	TDESCRPT	1-6
25.	213	4	1	52	Special physical structures	TSTRUCTR	1-4
26.	214	4	1	53	Education level - respondent	TEDUCRES	1-7
	215	4	1	54	Education level - spouse	TEDUCSPO	0-7
27.	216	4	1	55	Cdn. native Indian?	TNATIVE	1,2
28.	217	4	1	56	Occupation - respondent	TOCCRES	1-9
	218	4	1	57	Occupation - spouse	TOCCSPO	0-9
29.	219	4	1	58	Employment status - respondent	TEMPLRES	1-9
	220	4	1	59	Employment status - spouse	TEMPLSPO	0-9
30.	221	4	4	60-63	Monthly cash rent	MONRENT	
	222	4	1	64	Rental without cash payment (=1, leave blank as blank)	NOCASH	1

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
31.i)	223	4	1	65	Water included in rent	WATER	1
ii)	224	4	1	66	Electricity included in rent	ELECT	2
iii)	225	4	1	67	Heat include in rent	HEAT	3
iv)	226	4	1	68	Taxes included in rent	TAXES	4
v)	227	4	1	69	Parking included in rent	PARKING	5
32.a)	228	4	6	70-75	Household income	TINCOME	
b)	229	4	5	76-80	Monthly income	TMONINC	
	230	5	7	1-7	Sequential questionnaire ID	TSEQNUM5	
	231	5	2	9-10	Province of tenant	TPROV	
	232	5	6	12-17	Postal code of tenant	TPOSTCDE	

RECORD LAYOUT
CMHC LANDLORD KEYPUNCHED SURVEY DATA

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
	1	1	7	1-7	Sequential questionnaire ID	LSEQNUM1	
	2	1	1	9	Mail-out wave	LWAVE	
	3	1	1	10	Record number = 1	LRECORD1	
	4	1	4	11-14	Date received	LDATE	
1	5	1	1	15	Type of building	LTYPBUIL	1,2
2	6	1	3	16-18	Number of units	NUMUNIT	
3	7	1	2	19-20	Number of units vacant	NUMVAC	
4.i)	8	1	1	21	Principal fuel used (1 only)	LPRFUEL	1-7
ii)	9	1	1	22	Secondary fuel used (1 only)	LSECFUEL	1-7
5.i)	10	1	1	23	Principal heating equipment (1 only)	LPRHEAT	1-7
ii)	11	1	1	24	Secondary heating equipment (1 only)	LSECHEAT	1-7
6	12	1	2	25-26	Number of years owned bldg.	NUMYRS	
7	13	1	3	27-29	Year building was built	LYRBUILT	
8	14	1	1	30	Building a heritage property	LHERIT	1,2,9
9	15	1	1	31	Dwelling in need of repairs	LREPAIR	1-3
10.a)1)	16	1	1	32	Sitework	LSITEWRK	1-7,9
2)	17	1	1	33	Outside walls	LOUTWALL	1-7,9
3)	18	1	1	34	Roof	LROOF	1-7,9
4)	19	1	1	35	Chimney	LCHIMNEY	1-7,9
5)	20	1	1	36	Doors, windows	LDOORS	1-7,9
6)	21	1	1	37	Attached structures	LATSTRUC	1-7,9
7)	22	1	1	38	Finished carpentry	LFINCARP	1-7,9
8)	23	1	1	39	Flooring	LFLORING	1-7,9
9)	24	1	1	40	Drywall/plaster	LDRYWALL	1-7,9
10)	25	1	1	41	Wall surfaces	LWALSURF	1-7,9
11)	26	1	1	42	Electrical	LELECT	1-7,9
12)	27	1	1	43	Heating/cooling	LHEATING	1-7,9
13)	28	1	1	44	Plumbing	LPLUMING	1-7,9
14)	29	1	1	45	Insulation	LINSUL	1-7,9
15)	30	1	1	46	Other items	LOTHITEM	1-7,9
b)	31	1	1	47	Do any renovation work in 1985?	LANYREN	1,2
c)	32	1	2	48-49	No renovation was needed	LNORENOV	01
	33	1	2	50-51	Other business more important	LOTHBUS	02
	34	1	2	52-53	Workers too busy	LTOOBUSY	03
	35	1	2	54-55	Too much government red tape	LREDTAPE	04
	36	1	2	56-57	Property taxes might increase	LTAXES	05
	37	1	2	58-59	Too costly	LTOOCOST	06
	38	1	2	60-61	Interest rates too high	LINTRATE	07
	39	1	2	62-63	Loan terms unsuitable	LLOANBAD	08
	40	1	2	64-65	Loan request turned down	LTURNDWN	09
	41	1	2	66-67	Other reasons for not renovating	LOTHREA	10

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
11.a)i)	42	1	1	68	Sitework - repairs	LDRIVREP	1
	43	1	1	69	Sitework - improvements	LDRIVIMP	2
	44	1	1	70	Sitework - maintenance	LDRIVMNT	3
	45	1	1	71	Sitework - paid a firm	LDRIVFIR	1
	46	1	1	72	Sitework - paid for materials	LDRIVMAT	2
	47	1	1	73	Sitework - paid for labour	LDRIVLAB	3
ii)	48	1	1	74	Outside wall/structure - repair	LSTRCREP	1
	49	1	1	75	Outside wall/structure - improvements	LSTRCIMP	2
	50	1	1	76	Outside wall/structure - maintenance	LSTRCMNT	3
	51	1	1	77	Outside wall/structure - paid a firm	LSTRCFIR	1
	52	1	1	78	Outside wall/structure - paid for materials	LSTRCMAT	2
	53	1	1	79	Outside wall/structure - paid for labour	LSTRCLAB	3
	54	2	7	1-7	Sequential questionnaire ID	LSEQNUM2	
	55	2	1	8	Record number = 2	LRECORD2	
11.a)iii)	56	2	1	9	Outside wall/wood - repairs	LWOODREP	1
	57	2	1	10	Outside wall/wood - improvements	LWOODIMP	2
	58	2	1	11	Outside wall/wood - maintenance	LWOODMNT	3
	59	2	1	12	Outside wall/wood - paid a firm	LWOODFIR	1
	60	2	1	13	Outside wall/wood - paid for materials	LWOODMAT	2
	61	2	1	14	Outside wall/wood - paid for labour	LWOODLAB	3
iv)	62	2	1	15	Outside wall/other - repairs	LOUTSREP	1
	63	2	1	16	Outside wall/other - improvements	LOUTSIMP	2
	64	2	1	17	Outside wall/other - maintenance	LOUTSMNT	3
	65	2	1	18	Outside wall/other - paid a firm	LOUTSFIR	1
	66	2	1	19	Outside wall/other - paid for materials	LOUTSMAT	2
	67	2	1	20	Outside wall/other - paid for labour	LOUTSLAB	3
v)	68	2	1	21	Roof/gutters - repairs	LGUTTREP	1
	69	2	1	22	Roof/gutters - improvements	LGUTTIMP	2
	70	2	1	23	Roof/gutters - maintenance	LGUTTMNT	3
	71	2	1	24	Roof/gutters - paid a firm	LGUTTFIR	1
	72	2	1	25	Roof/gutters - paid for materials	LGUTTMAT	2
	73	2	1	26	Roof/gutters - paid for labour	LGUTTLAB	3

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
11.a)vi)	74	2	1	27	Roof/coverings - repairs	LCOVREP	1
	75	2	1	28	Roof/coverings - improvements	LCOVIMP	2
	76	2	1	29	Roof/coverings - maintenance	LCOVMNT	3
	77	2	1	30	Roof/coverings - paid a firm	LCOVFIR	1
	78	2	1	31	Roof/coverings - paid for materials	LCOVMAT	2
	79	2	1	32	Roof/coverings - paid for labour	LCOVLAB	3
vii)	80	2	1	33	Chimney - repairs	LCHIMREP	1
	81	2	1	34	Chimney - improvements	LCHIMIMP	2
	82	2	1	35	Chimney - maintenance	LCHIMMNT	3
	83	2	1	36	Chimney - paid a firm	LCHIMFIR	1
	84	2	1	37	Chimney - paid for materials	LCHIMMAT	2
	85	2	1	38	Chimney - paid for labour	LCHIMLAB	3
viii)	86	2	1	39	Doors/windows - repairs	LWINDREP	1
	87	2	1	40	Doors/windows - improvements	LWINDIMP	2
	88	2	1	41	Doors/windows - maintenance	LWINDMNT	3
	89	2	1	42	Doors/windows - paid a firm	LWINDFIR	1
	90	2	1	43	Doors/windows - paid for materials	LWINDMAT	2
	91	2	1	44	Doors/windows - paid for labour	LWINDLAB	3
ix)	92	2	1	45	Steps/porches - repairs	LSTEPREP	1
	93	2	1	46	Steps/porches - improvements	LSTEPIMP	2
	94	2	1	47	Steps/porches - maintenance	LSTEPMNT	3
	95	2	1	48	Steps/porches - paid a firm	LSTEPFIR	1
	96	2	1	49	Steps/porches - paid for materials	LSTEPMAT	2
	97	2	1	50	Steps/porches - paid for labour	LSTEPLAB	3
11.b)i)	98	2	1	51	Carpentry/floors - repairs	LFLORREP	1
	99	2	1	52	Carpentry/floors - improvements	LFLORIMP	2
	100	2	1	53	Carpentry/floors - maintenance	LFLORMNT	3
	101	2	1	54	Carpentry/floors - paid a firm	LFLORFIR	1
	102	2	1	55	Carpentry/floors - paid for materials	LFLORMAT	2
	103	2	1	56	Carpentry/floors - paid for labour	LFLORLAB	3
ii)	104	2	1	57	Carpentry/walls - repairs	LWALLREP	1
	105	2	1	58	Carpentry/walls - improvements	LWALLIMP	2
	106	2	1	59	Carpentry/walls - maintenance	LWALLMNT	3
	107	2	1	60	Carpentry/walls - paid a firm	LWALLFIR	1
	108	2	1	61	Carpentry/walls - paid for materials	LWALLMAT	2
	109	2	1	62	Carpentry/walls - paid for labour	LWALLLAB	3

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
11.b)iii)	110	2	1	63	Carpentry/doors - repairs	LDOORREP	1
	111	2	1	64	Carpentry/doors - improvements	LDOORIMP	2
	112	2	1	65	Carpentry/doors - maintenance	LDOORMNT	3
	113	2	1	66	Carpentry/doors - paid a firm	LDOORFIR	1
	114	2	1	67	Carpentry/doors - paid for materials	LDOORMAT	2
	115	2	1	68	Carpentry/doors - paid for labour	LDOORLAB	3
iv)	116	2	1	69	Carpentry/shelves - repairs	LSHELREP	1
	117	2	1	70	Carpentry/shelves - improvements	LSHELIMP	2
	118	2	1	71	Carpentry/shelves - maintenance	LSHELMNT	3
	119	2	1	72	Carpentry/shelves - paid a firm	LSHELFIR	1
	120	2	1	73	Carpentry/shelves - paid for materials	LSHELMAT	2
	121	2	1	74	Carpentry/shelves - paid for labour	LSHELLAB	3
v)	122	2	1	75	Drywall/plaster - repairs	LDRYREP	1
	123	2	1	76	Drywall/plaster - improvements	LDRYIMP	2
	124	2	1	77	Drywall/plaster - maintenance	LDRYMNT	3
	125	2	1	78	Drywall/plaster - paid a firm	LDRYFIR	1
	126	2	1	79	Drywall/plaster - paid for materials	LDRYMAT	2
	127	2	1	80	Drywall/plaster - paid for labour	LDRYLAB	3
	128	3	7	1-7	Sequential questionnaire ID	LSEQNUM3	
	129	3	1	8	Record number = 3	LRECORD3	
11.b)vi)	130	3	1	9	Wall surfaces/paint - repairs	LPANTREP	1
	131	3	1	10	Wall surfaces/paint - improvements	LPANTIMP	2
	132	3	1	11	Wall surfaces/paint - maintenance	LPANTMNT	3
	133	3	1	12	Wall surfaces/paint - paid a firm	LPANTFIR	1
	134	3	1	13	Wall surfaces/paint - paid for materials	LPANTMAT	2
	135	3	1	14	Wall surfaces/paint - paid for labour	LPANTLAB	3
vii)	136	3	1	15	Flooring/hardwood - repairs	LHARDREP	1
	137	3	1	16	Flooring/hardwood - improvements	LHARDIMP	2
	138	3	1	17	Flooring/hardwood - maintenance	LHARDMNT	3

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
11.b)vii)	139	3	1	18	Flooring/hardwood - paid a firm	LHARDFIR	1
	140	3	1	19	Flooring/hardwood - paid for materials	LHARDMAT	2
	141	3	1	20	Flooring/hardwood - paid for labour	LHARDLAB	3
viii)	142	3	1	21	Flooring/carpet - repairs	LCARPREP	1
	143	3	1	22	Flooring/carpet - improvements	LCARPIMP	2
	144	3	1	23	Flooring/carpet - maintenance	LCARPMNT	3
	145	3	1	24	Flooring/carpet - paid a firm	LCARPFIR	1
	146	3	1	25	Flooring/carpet - paid for materials	LCARPMAT	2
	147	3	1	26	Flooring/carpet - paid for labour	LCARPLAB	3
ix)	148	3	1	27	Flooring/tile - repairs	LTILEREP	1
	149	3	1	28	Flooring/tile - improvements	LTILEIMP	2
	150	3	1	29	Flooring/tile - maintenance	LTILEMNT	3
	151	3	1	30	Flooring/tile - paid a firm	LTILEFIR	1
	152	3	1	31	Flooring/tile - paid for materials	LTILEMAT	2
	153	3	1	32	Flooring/tile - paid for labour	LTILELAB	3
11.c)i)	154	3	1	33	Electrical/lighting - repairs	LLIGHREP	1
	155	3	1	34	Electrical/lighting - improvements	LLIGHIMP	2
	156	3	1	35	Electrical/lighting - maintenance	LLIGHMNT	3
	157	3	1	36	Electrical/lighting - paid a firm	LLIGHFIR	1
	158	3	1	37	Electrical/lighting - paid for materials	LLIGHMAT	2
	159	3	1	38	Electrical/lighting - paid for labour	LLIGHLAB	3
ii)	160	3	1	39	Electrical/wiring - repairs	LWIREREP	1
	161	3	1	40	Electrical/wiring - improvements	LWIREIMP	2
	162	3	1	41	Electrical/wiring - maintenance	LWIREMNT	3
	163	3	1	42	Electrical/wiring - paid a firm	LWIREFIR	1
	164	3	1	43	Electrical/wiring - paid for materials	LWIREMAT	2
	165	3	1	44	Electrical/wiring - paid for labour	LWIRELAB	3
iii)	166	3	1	45	Heating/furnace - repairs	LFURNREP	1
	167	3	1	46	Heating/furnace - improvements	LFURNIMP	2
	168	3	1	47	Heating/furnace - maintenance	LFURNMNT	3
	169	3	1	48	Heating/furnace - paid a firm	LFURNFIR	1

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
11.c)iii)	170	3	1	49	Heating/furnace - paid for materials	LFURNMAT	2
	171	3	1	50	Heating/furnace - paid for labour	LFURNLAB	3
iv)	172	3	1	51	Heating/fireplace - repairs	LFIREREP	1
	173	3	1	52	Heating/fireplace - improvements	LFIREIMP	2
	174	3	1	53	Heating/fireplace - maintenance	LFIREMNT	3
	175	3	1	54	Heating/fireplace - paid a firm	LFIREFIR	1
	176	3	1	55	Heating/fireplace - paid for materials	LFIREMAT	2
	177	3	1	56	Heating/fireplace - paid for labour	LFIRELAB	3
v)	178	3	1	57	Heating/ductwork - repairs	LDUCTREP	1
	179	3	1	58	Heating/ductwork - improvements	LDUCTIMP	2
	180	3	1	59	Heating/ductwork - maintenance	LDUCTMNT	3
	181	3	1	60	Heating/ductwork - paid a firm	LDUCTFIR	1
	182	3	1	61	Heating/ductwork - paid for materials	LDUCTMAT	2
	183	3	1	62	Heating/ductwork - paid for labour	LDUCTLAB	3
vi)	184	3	1	63	Plumbing/pipes - repairs	LPIPEREP	1
	185	3	1	64	Plumbing/pipes - improvements	LPIPEIMP	2
	186	3	1	65	Plumbing/pipes - maintenance	LPIPEMNT	3
	187	3	1	66	Plumbing/pipes - paid a firm	LPIPEFIR	1
	188	3	1	67	Plumbing/pipes - paid for materials	LPIPEMAT	2
	189	3	1	68	Plumbing/pipes - paid for labour	LPIPELAB	3
vii)	190	3	1	69	Plumbing/fixtures - repairs	LFIXREP	
	191	3	1	70	Plumbing/fixtures - improvements	LFIXIMP	2
	192	3	1	71	Plumbing/fixtures - maintenance	LFIXMNT	3
	193	3	1	72	Plumbing/fixtures - paid a firm	LFIXFIR	1
	194	3	1	73	Plumbing/fixtures - paid for materials	LFIXMAT	2
	195	3	1	74	Plumbing/fixtures - paid for labour	LFIXLAB	3

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
11.c)viii)	196	3	1	75	Plumbing/water heater - repairs	LHEATREP	1
	197	3	1	76	Plumbing/water heater - improvements	LHEATIMP	2
	198	3	1	77	Plumbing/water heater - maintenance	LHEATMNT	3
	199	3	1	78	Plumbing/water heater - paid a firm	LHEATFIR	1
	200	3	1	79	Plumbing/water heater - paid for materials	LHEATMAT	2
	201	3	1	80	Plumbing/water heater - paid for labour	LHEATLAB	3
	202	4	1	1-7	Sequential questionnaire ID	LSEQNUM4	
	203	4	1	8	Record number = 4	LRECORD4	
11.c)ix)	204	4	1	9	Insulation/attic - repairs	LATICREP	1
	205	4	1	10	Insulation/attic - improvements	LATICIMP	2
	206	4	1	11	Insulation/attic - maintenance	LATICMNT	3
	207	4	1	12	Insulation/attic - paid a firm	LATICFIR	1
	208	4	1	13	Insulation/attic - paid for materials	LATICMAT	2
	209	4	1	14	Insulation/attic - paid for labour	LATICLAB	3
x)	210	4	1	15	Insulation/wall - repairs	LINSLREP	1
	211	4	1	16	Insulation/wall - improvements	LINSLIMP	2
	212	4	1	17	Insulation/wall - maintenance	LINSLMNT	3
	213	4	1	18	Insulation/wall - paid a firm	LINSLFIR	1
	214	4	1	19	Insulation/wall - paid for materials	LINSLMAT	2
	215	4	1	20	Insulation/wall - paid for labour	LINSLLAB	3
xi)	216	4	1	21	Insulation/doors - repairs	LINDRREP	1
	217	4	1	22	Insulation/doors - improvements	LINDRIMP	2
	218	4	1	23	Insulation/doors - maintenance	LINDRMNT	3
	219	4	1	24	Insulation/doors - paid a firm	LINDRFIR	1
	220	4	1	25	Insulation/doors - paid for materials	LINDRMAT	2
	221	4	1	26	Insulation/doors - paid for labour	LINDRLAB	3

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
11.c)xii)	222	4	1	27	Mechanical/other - repairs	LMECHREP	
	223	4	1	28	Mechanical/other - improvements	LMECHIMP	2
	224	4	1	29	Mechanical/other - maintenance	LMECHMNT	3
	225	4	1	30	Mechanical/other - paid a firm	LMECHFIR	1
	226	4	1	31	Mechanical/other - paid for materials	LMECHMAT	2
	227	4	1	32	Mechanical/other - paid for labour	LMECHLAB	3
d)	228	4	1	33	Add any space or rooms to building	LADDSPAC	1,2
e)	229	4	1	34	Convert from non-housing to housing	LCONVERT	1,2
f)	230	4	1	35	Change number of units	CHGUNIT	1,2
12.	231	4	6	36-41	Amount paid to firms for labour	LFIRMPD	
	232	4	6	42-47	Materials paid for directly	LMATPD	
	233	4	6	48-53	Workers paid for directly	LWORKPD	
	234	4	6	54-59	Total cost of renovation work	LTOTCOST	
13.	235	4	1	60	Training courses	LCOURSES	1-8
	236	4	1	61	Pamphlets, written material	LBOOKLET	1-8
	237	4	1	62	Personal experience	LEXPER	1-8
	238	4	1	63	Word-of-mouth	LWORDOF	1-8
	239	4	1	64	Professional advice	LADVICE	1-8
14.	240	4	1	65	Someone hired to do work (✓=1, leave blank as blank)	LNOHIRE	1
	241	4	1	66	Quality of workmanship	LQUALWRK	1-7
	242	4	1	67	Quality of materials used	LQUALMAT	1-7
	243	4	1	68	Time to complete job	LCOMPLET	1-7
15.	244	4	1	69	Personal sources	LSAVINGS	1,2
	245	4	1	70	Loan from a bank	LBANK	1,2
	246	4	1	71	Mortgage	LMORTGAG	1,2
	247	4	1	72	Loan from friend	LFRIEND	1,2
	248	4	1	73	Residential Rehab. Ass. Program	LRRAP	1,2
	249	4	1	74	Cdn. Oil Substitution Prog.	LCOSP	1,2
	250	4	1	75	Cdn. Home Insulation Prog.	LCHIP	1,2
	251	4	1	76	Other federal gov't program	LFEDPROG	1,2
	252	4	1	77	Other government program	LGOVPROG	1,2
	253	4	1	78	Other financial methods	LOTHMEAN	1,2
	254	5	7	1-7	Sequential questionnaire ID	LSEQNUM5	
	255	5	1	8	Record number = 5	LRECORD5	
16.	256	5	1	9	Number of places tried to borrow money	BORROW	1-4
17.	257	5	1	10	Turned down for loan	TURNDOWN	1,2
19.	258	5	1	11	Were tenants forced to move temporarily	MOVETEMP	1,2
	259	5	3	12-14	How many	NUMTEMP	
20.	260	5	1	15	Were tenants forced to move permanently	MOVEPERM	1,2
	261	5	3	16-18	How many	NUMPERM	

Question Number	Variable Number	Record Number	No. of Columns	Column Number	Comments	Name	Valid Range
21.	262	5	1	19	Look better outside	LOUTSIDE	1-7
	263	5	1	20	Look better inside	LINSIDE	1-7
	264	5	1	21	Have a higher resale value	LRESALE	1-7
	265	5	1	22	Make building safer	LSAFER	1-7
	266	5	1	23	Less costly to heat	LLESCOST	1-7
	267	5	1	24	Less costly to maintain	LLESSMNT	1-7
	268	5	1	25	Make building bigger	LBIGGER	1-7
	269	5	1	26	More accessible to handicapped	LACCESS	1-7
	270	5	1	27	Meet health/safety regulations	LREGULAT	1-7
	271	5	1	28	Other reasons for renovating	LREASONS	1-7
22.a)	272	5	2	29-30	Work on sitework	LWKSITE	01
	273	5	2	31-32	Work on walls	LWKWALLS	02
	274	5	2	33-34	Work on roof, chimney	LWKROOF	03
	275	5	2	35-36	Work on doors, windows	LWKDOORS	04
	276	5	2	37-38	Work on carpentry	LWKCARP	05
	277	5	2	39-40	Work on flooring	LWKFLOOR	06
	278	5	2	41-42	Work on electrical systems	LWKELECT	07
	279	5	2	43-44	Work on heating systems	LWKHEAT	08
	280	5	2	45-46	Work on plumbing systems	LWKPLUMB	09
	281	5	2	47-48	Work on insulation	LWKINSUL	10
	282	5	2	49-50	Work on other areas	LWKOTHER	11
	283	5	2	51-52	No plans to renovate	LNOPLANS	12
b)	284	5	7	53-59	Amount plan to spend	LAMTSPEN	
23.	285	5	1	60	Present facilities	LPRESENT	1-7
24.	286	5	1	61	Facilities 5 years ago	LOLDFAC	1-7
25.	287	5	1	62	Who owns building	WHOOWN	1-4
26.	288	5	1	63	Landlord occupation	OCCUPT	1-9
27.	289	5	1	64	Mortgage outstanding	LMORTOUT	1,2
28.	290	5	8	65-72	Principal outstanding	LPRINOUT	
29.	291	5	6	73-78	Mortgage payment	LMORTPAY	
30.	292	5	1	79	How often payment is made	LPAYMENT	1-3
	293	6	7	1-7	Sequential questionnaire ID	LSEQNUM6	
	294	6	1	8	Record number = 6	LRECORD6	
31.	295	6	6	9-14	Amount of property taxes	LAMTTAX	
32.	296	6	6	15-20	Cost of utilities	LCSTUTIL	
33.a)	297	6	9	21-29	Selling price of dwelling	LSELPRIC	
b)	298	6	3	30-32	Percentage of assets	PERCENT	
	299	6	1	33	Inspection or not (YES=1, NO=2)	LINSPECT	1,2
	300	6	10	34-43	Telephone number	LTELENO	
	301	6	2	45-46	Province	LPROV	
	302	6	6	48-53	Postal Code	POSTCOD	

APPENDIX E
Detailed Supplementary Tables of Response Rates

TABLE ONE: Number Mailed by Province

Province	Homeowners	Tenants	Landlords
Alberta	1,781	545	296
British Columbia	2,613	943	405
Manitoba	972	231	136
New Brunswick	1,238	233	162
Newfoundland	1,088	113	62
Nova Scotia	1,438	336	257
Ontario	2,656	718	493
Prince Edward Island	544	115	85
Quebec	2,980	1,556	825
Saskatchewan	954	206	114
	16,264	**4,996**	**2,835**

TABLE TWO: Number Mailed by Language and Wave

WAVE I	Homeowners	ENG	13,227	16,264	24,095
		FRE	3,037		
	Tenants	ENG	3,557	4,996	
		FRE	1,439		
	Landlords	ENG	2,037	2,835	
		FRE	798		
WAVE II	Homeowners	ENG	7,977	9 778	15,168
		FRE	1,801		
	Tenants	ENG	2,227	3,093	
		FRE	866		
	Landlords	ENG	1,650	2,297	
		FRE	647		
WAVE III	Homeowners	ENG	495	500	5,016
		FRE	5		
	Tenants	ENG	1,828	2 572	
		FRE	744		
	Landlords	ENG	1,410	1,944	
		FRE	534		

TABLE THREE: Number Returned by Province and Type

Province	Homeowners	Tenants	Landlords
Alberta	1,052	279	96
British Columbia	1,473	483	126
Manitoba	574	118	45
New Brunswick	671	119	62
Newfoundland	483	48	19
Nova Scotia	848	170	82
Ontario	1,440	367	150
Prince Edward Island	268	64	34
Quebec	1,602	798	318
Saskatchewan	561	122	45
	8,972	**2,568**	**977**

TABLE FOUR: Number Returned by Language

	Homeowners	Tenants	Landlords
Number English	7,368	1,831	666
Number French	1,604	737	311
	8,972	**2,568**	**977**

TABLE FIVE: Homeowner Returns by Province and Wave

Province	Wave I (%)	Wave II (%)	Wave III (%)
Alberta	836	216	--
British Columbia	1,115	358	--
Manitoba	432	142	--
New Brunswick	510	161	--
Newfoundland	361	122	--
Nova Scotia	673	175	--
Ontario	1,053	352	35
Prince Edward Island	210	58	--
Quebec	1,275	327	--
Saskatchewan	439	122	--
	6,904	**2,033**	**35**

TABLE SIX: Tenant Returns by Province and Wave

Province	Wave I (%)	Wave II (%)	Wave III (%)
Alberta	196	67	16
British Columbia	371	81	31
Manitoba	77	30	11
New Brunswick	91	23	5
Newfoundland	33	11	4
Nova Scotia	120	31	19
Ontario	235	89	43
Prince Edward Island	48	14	2
Quebec	571	143	84
Saskatchewan	80	30	12
	1,822	**519**	**227**

TABLE SEVEN: Landlord Returns by Province and Wave

Province	Wave I (%)	Wave II (%)	Wave III (%)
Alberta	56	35	5
British Columbia	50	70	6
Manitoba	23	17	5
New Brunswick	30	29	3
Newfoundland	8	9	2
Nova Scotia	44	29	9
Ontario	76	60	14
Prince Edward Island	21	13	--
Quebec	152	144	22
Saskatchewan	25	15	5
	485	**421**	**71**

TABLE EIGHT: Number of Respondents and Response Rates by Survey Strata

HOMEOWNERS

Region	CMHC Target	Number	Survey Response Ratio	Percentage Over CMHC Target
Atlantic	2252	2270	53.9	0.8%
Quebec	1431	1602	54.8	11.9%
Ontario	1262	1440	55.9	14.1%
Prairies	1769	2187	60.3	23.6%
B.C.	1357	1473	58.0	8.6%
Canada	**8071**	**8972**	**56.6**	**11.2%**

TENANTS

Region	CMHC Target	Number	Survey Response Ratio	Percentage Over CMHC Target
Atlantic	660	401	55.7	-39.2%
Quebec	1058	798	56.4	-24.6%
Ontario	618	367	56.1	-40.6%
Prairies	809	519	60.2	-35.9%
B.C.	636	483	58.6	-24.1%
Canada	**3781**	**2568**	**57.4**	**-32.1%**

Note: The numbers for tenants should be looked at in light of the difference between the original sample and the CMHC target for that sample. A much lower proportion of tenants were included than in the target. This explains why the numbers are considerably less than CMHC target but the response rates in each region are over 55 per cent where only a 50 per cent response rate was targetted for.

TABLE NINE: Ineligible and Refusals

	Homeowners		Tenants		Landlords	
Prov.	Ineligible	Refusals	Ineligible	Refusals	Ineligible	Refusals
Alta.	47	10	73	5	54	6
B.C.	85	18	119	8	79	10
Man.	18	8	26	4	16	2
N.B.	36	5	21	4	20	4
Nfld.	29	7	11	--	4	--
N.S.	24	9	35	--	27	6
Ont.	80	22	64	7	86	19
P.E.I.	10	2	10	1	7	1
Que.	54	23	140	14	144	19
Sask.	16	3	21	1	15	2
	399	**107**	**520**	**44**	**452**	**70**

Note: Ineligible -- bad address, moved, deceased

TABLE TEN: Homeowner Response Rate by Province and Region*

Province	Number Mailed	Eligible Received	Ineligible Received	Refusals	Response Rate
Alberta	1,781	1,052	47	10	1052/1734=60.7%
British Columbia	2,613	1,473	85	18	1473/2538=58.0%
Manitoba	972	574	18	8	574/954=60.2%
New Brunswick	1,238	671	36	5	671/1202=55.8%
Newfoundland	1,088	483	29	7	483/1059=45.6%
Nova Scotia	1,438	848	24	9	848/1414=60.0%
Ontario	2,656	1,440	80	22	1440/2576=55.9%
Prince Edward Island	544	268	10	2	268/534=50.2%
Quebec	2,980	1,602	54	23	1602/2926=54.8%
Saskatchewan	954	561	16	3	561/938=59.8%
	16,264	**8,972**	**399**	**107**	**8972/15865=56.6%**

Region	
Atlantic	2,270/4,209=53.9%
Quebec	1,602/2,926=54.8%
Ontario	1,440/2,576=55.9%
Prairies	2,187/2,626=60.3%
B.C.	1,473/2,538=58.0%

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* As at January 9, 1987.

TABLE ELEVEN: Tenant Response Rate by Province and Region

Province	Number Mailed	Eligible Received	Ineligible Received	Refusals	Response Rate
Alberta	545	279	73	5	279/472=59.1%
British Columbia	943	483	119	8	483/824=58.6%
Manitoba	231	118	26	4	118/205=57.6%
New Brunswick	233	119	21	4	119/212=56.1%
Newfoundland	113	48	11	--	48/102=47.1%
Nova Scotia	336	170	35	--	170/301=56.5%
Ontario	718	367	64	7	367/654=56.1%
Prince Edward Island	115	64	10	1	64/105=60.9%
Quebec	1,556	798	140	14	798/1416=56.4%
Saskatchewan	206	122	21	1	122/185=66.0%
	4,996	**2,568**	**520**	**44**	**2568/4476=57.4%**

Region	
Atlantic	401/720=55.7%
Quebec	798/1416=56.4%
Ontario	367/654=56.1%
Prairies	519/862=60.2%
B.C.	483/824=58.6%

TABLE TWELVE: Landlord Response Rate by Province and Region

Province	Number Mailed	Eligible Received	Ineligible Received	Refusals	Response Rate
Alberta	296	96	54	6	96/242=39.7%
British Columbia	405	126	79	10	126/326=38.7%
Manitoba	136	45	16	2	45/120=37.5%
New Brunswick	162	62	20	4	62/142=43.7%
Newfoundland	62	19	4	--	19/58=32.8%
Nova Scotia	257	82	27	6	82/230=35.7%
Ontario	493	150	86	19	150/407=36.9%
Prince Edward Island	85	34	7	2	34/78=43.6%
Quebec	825	318	144	19	318/681=46.7%
Saskatchewan	114	45	15	2	45/99=45.5%
	2,835	**977**	**452**	**70**	**977/2383=41.0%**

Region	
Atlantic	197/508=38.8%
Quebec	318/681=46.7%
Ontario	150/407=36.9%
Prairies	186/461=40.3%
B.C.	126/326=38.7%

TABLE THIRTEEN: Number Agreed to Inspection by Province

Province	Homeowners	Landlords
Alberta	298	33
British Columbia	417	38
Manitoba	177	11
New Brunswick	228	12
Newfoundland	176	7
Nova Scotia	313	30
Ontario	388	50
Prince Edward Island	88	9
Quebec	557	62
Saskatchewan	176	18
	2,818	**270**

TABLE FOURTEEN: Request for Telephone Assistance by Type

	Homeowners	Tenants	Landlords
No publication received	0	0	1
Received reminder/ publication but no questionnaire	49	23	9
Send new questionnaire/ old one destroyed	23	3	3
Received inappropriate language	3	5	10
Received another questionnaire after already completing one	6	1	7
Respondent unable or ineligible to complete	11	4	25
Refusal to complete	5	5	13
General information	47	10	16
Totals	**144**	**51**	**84**

APPENDIX F.1
Comparison of Characteristics for Respondents and Non-Respondents - Homeowners

APPENDIX F.2
Comparison of Characteristics for Respondents and Non-Respondents - Tenants

APPENDIX F.3
Comparison of Characteristics for Respondents and Non-Respondents - Landlords

APPENDIX F.1
Comparison of Characteristics for Respondents and Non-Respondents

HOMEOWNERS

	Respondents	Non Respondents
Employment Status		
Employed Full-time	47.8%	50.4%
Employed Part-time	11.8%	16.6%
Self-employed	12.3%	7.9%
Unemployed	7.0%	3.6%
Retired	16.3%	17.3%
Student	0.6%	4.3%
	n = 8324	n = 139
Education		
Primary School	12.4%	18.1%
High School	43.1%	54.4%
Some Community College	9.5%	4.4%
Community College Graduate	9.9%	9.4%
Some University	9.1%	3.1%
University Graduate	10.4%	7.5%
Post Graduate	5.6%	3.1%
	n = 8409	n = 160
Household Income:	$\bar{x}$=$37,994 n=7234	$\bar{x}$=$27,940 n=121
Language		
English	82.1%	70.9%
French	17.9%	29.1%
	n = 8900	n = 203
Province		
British Columbia	16.4%	10.8%
Alberta	11.7%	4.9%
Saskatchewan	6.2%	5.9%
Manitoba	6.4%	5.9%
Ontario	16.0%	22.7%
Quebec	17.9%	30.5%
New Brunswick	7.5%	3.9%
Nova Scotia	9.5%	7.4%
Prince Edward Island	3.0%	1.0%
Newfoundland	5.4%	6.9%
	n = 8900	n = 203

APPENDIX F.2
Comparison of Characteristics for Respondents and Non-Respondents

TENANTS

	Respondents	Non Respondents
Employment Status		
Employed Full time	54.2%	54.0%
Employed Part-time	11.6%	14.9%
Self-employed	5.8%	6.3%
Unemployed	10.7%	9.2%
Retired	4.9%	12.1%
Student	5.1%	3.5%
	n = 2285	n = 174
Education		
Primary School	7.1%	16.2%
High School	41.0%	54.3%
Some Community College	12.4%	2.5%
Community College Graduate	12.9%	9.6%
Some University	9.7%	2.5%
University Graduate	11.9%	14.2%
Post Graduate	5.1%	0.5%
	n = 2332	n = 197
Household Income:	$\bar{x}=\$25,318$ n=1714	$\bar{x}=\$24,010$ n=150
Language		
English	71.4%	65.4%
French	28.6%	34.6%
	n = 2479	n = 254
Province		
British Columbia	18.8%	11.4%
Alberta	11.1%	7.5%
Saskatchewan	4.8%	4.3%
Manitoba	4.7%	5.5%
Ontario	14.3%	21.7%
Quebec	30.8%	36.2%
New Brunswick	4.7%	3.9%
Nova Scotia	6.5%	5.1%
Prince Edward Island	2.6%	2.0%
Newfoundland	1.9%	2.4%
	n = 2479	n = 254

APPENDIX F.3
Comparison of Characteristics for Respondents and Non-Respondents

LANDLORDS

	Respondents	Non Respondents
Language		
English	67.6%	72.2%
French	32.4%	27.8%
	n = 854	n = 223
Province		
British Columbia	12.9%	13.5%
Alberta	9.6%	12.1%
Saskatchewan	4.7%	4.5%
Manitoba	4.4%	5.8%
Ontario	15.0%	22.0%
Quebec	33.1%	31.4%
New Brunswick	6.4%	4.0%
Nova Scotia	7.8%	3.1%
Prince Edward Island	4.0%	3.1%
Newfoundland	2.0%	0.4%
	n = 854	n = 223

APPENDIX G.1
Breakdown of Missing Values by Respondent Characteristics -- Homeowners

APPENDIX G.2
Breakdown of Missing Values by Respondent Characteristics -- Tenant

APPENDIX G.3
Breakdown of Missing Values by Respondent Characteristics -- Landlords

APPENDIX G.1
Breakdown of Missing Values by Respondent Characteristics -- Homeowners*

Question Section	Breakdown Variable	Value	Average Percent Missing
Building Characteristics	Education	Primary school	5.1
		Average for all other education levels	1.8
	Employment status	Retired	4.9
		Average for all other employment categories	2.3
Physical Condition	Length of tenure	More than 20 years	8.7
		Average for less than 20 years	3.4
	Education	Primary school	10.3
		Average for all other education levels	2.7
	Employment status	Retired	10.9
		Average for all other employment categories	3.4
Renovation Behaviour	Length of tenure	More than 20 years	17.1
		Average for less than 20 years	13.7
	Education	Primary school	16.9
		Average for all other education levels	12.4
	Employment status	Retired	17.9
		Average of all other employment categories	13.6

Question Section	Breakdown Variable	Value	Average Percent Missing
Reasons for renovating	Length of tenure	More than 20 years	25.1
		Average for 20 years or less	18.0
	Need for repair	No - regular maintenance	21.0
		Yes - minor repairs	19.4
		Yes - major repairs	17.7
	Have an outstanding mortgage?	No	22.2
		Yes	18.4
	Employment status	Retired	25.8
		Average of all other employment categories	18.1
Household Characteristics	Length of tenure	More than 20 years	15.1
		Average for 20 years or less	7.9
	Need for repair	Yes - major repairs	12.0
		Yes - minor repairs	8.9
		No - regular maintenance	8.8
	Have an outstanding mortgage?	No	10.9
		Yes	5.9
Household Operations	Length of tenure	More than 20 years	18.7
		Average for 20 years or less	10.4
	Any renovations done in 1985?	No work done	13.9
		Yes	9.8
	Education	Primary school	18.6
		Average of all other education levels	9.5

APPENDIX G.2
Breakdown of Missing Values by Respondent Characteristics -- Tenant

Question Section	Breakdown Variable	Value	Average Percent Missing
Building Characteristics	Education	Primary school	8.3
		Average for all other education levels	2.9
	Employment status	Retired	9.9
		Average for all other employment categories	3.1
Physical Condition	Length of tenure	Average for 10 or more years	7.1
		Average for less than 10 years	4.2
	Education	Primary school	15.5
		Average for all other education levels	3.1
	Employment status	Retired	14.8
		Average for all other employment categories	3.6
Renovation Behaviour	Length of tenure	10 to 20 years	19.6
		Average for more than 20 years	15.0
		Average for less than 10 years	12.7
	Need for repair	Yes - major repairs	15.9
		Yes - minor repairs	13.2
		No - regular maintenance	10.5
	Education	Primary school	17.0
		Average for all other education levels	11.8
	Occupation	Farming/Fishing	17.9
		Average for all other occupations	13.1

Question Section	Breakdown Variable	Value	Average Percent Missing
	Occupation	Farming/Fishing	16.0
		Average for all other occupations	11.3
	Employment status	Retired	18.3
		Average of all other employment categories	12.1

* Note: With almost 9,000 cases even substantively trivial findings can be statistically significant. This table only reports differences in the average per cent missing response in excess of three per cent.

APPENDIX G.3
Breakdown of Missing Values by Respondent Characteristics -- Landlords

Question Section	Breakdown Variable	Value	Average Percent Missing
Building Characteristics	Occupation	Labourer	9.6
		Average of all other occupations	4.7
	Have a mortgage outstanding?	No	6.9
		Yes	4.0
Physical Condition	Language	French	15.4
		English	4.4
	Any renovations done in 1985?	No work done	7.2
		Yes	4.7
Reasons for Renovating	Any renovations done in 1985?	Yes	37.2
		No work done	1.6
	Have a mortgage outstanding?	No	27.2
		Yes	22.3
Landlord Characteristics	Language	English	14.5
		French	10.1

Question Section	Breakdown Variable	Value	Average Percent Missing
Renovation Behaviour Con't	Employment status	Other	18.6
		Retired	16.8
		Average for all other employment categories	13.2
Home Energy Practices	Education	Primary school	5.1
		Average for all other employment categories	1.6
Experience with Renovation Process	Any renovation done in 1985?	No work done	11.3
		Yes	8.2
	Education	Primary school	16.8
		Average for all other education levels	9.8
	Employment status	Retired	15.2
		Average for all other employment categories	11.2
Household Characteristics	Length of tenure	More than 20 years	19.9
		Average for 20 years or less	15.2
	Any renovations done in 1985?	No work done	15.1
		Yes	12.2

APPENDIX H

Homeowner and Landlord Response to Type of Job Done Last in 1985

Type of Job Done Last in 1985

A sample of approximately 3,500 homeowner questionnaires was reviewed for question 17, the type of job done last in 1985. About 22 per cent of the questionnaires had a response, which is a little more than one in five who answered the question.

All of the landlord questionnaires were reviewed for the same question, number 14 in their questionnaire. Of these, approximately 31 per cent responded to the question.

A preliminary sample of the tenant questionnaires were reviewed for this question, number 13 on the survey instrument, but too few responded to make the exercise worthwhile.

The tables below present the results of this research, indicating the number who mentioned the type of work done, that number as a percentage of those who responded and of all respondents. These results must not be taken as representing level and type of renovation activity in these two groups, as the question was not necessarily answered by all who did renovation work. However, the results could suggest general trends.

TABLE ONE
Homeowners

Work Done Last in 1985	Number Who Mentioned	% of Q.17 Respondents (781)	% of All Homeowner Respondents Sampled For Q.17 (3,500)
Exterior			
Sitework	67	8.6	1.9
Outside Walls	56	7.2	1.6
Roof	95	12.2	2.7
Chimney	20	2.6	0.6
Doors and Windows	99	12.7	2.8
Steps and Porches	55	7.0	1.6
Other Exterior	8	1.0	0.2
Interior			
Floors	29	3.7	0.8
Walls	5	0.6	0.1
Room Conversions*	76	9.7	2.2
Drywall/Plater	14	1.8	0.4
Wall Surfaces	34	4.4	1.0
Carpeting	45	5.8	1.3
Other Interior	16	2.0	0.5
Mechanical Systems			
Electrical	21	2.7	0.6
Furnace/Cooling Unit	51	6.5	1.5
Fireplace/Wood Stove	7	0.9	0.2
Ductwork	6	0.8	0.2
Plumbing	43	5.5	1.2
Insulation	26	3.3	0.7
Other Mechanical	2	0.3	0.1
Other	6	0.8	0.2
Totals	781	100.1	22.4

* Room conversion includes one-word statements of respondents such as "bedroom". Kitchen was mentioned 29 times, and bathroom 19 times.

TABLE TWO
Landlords

Work Done Last in 1985	Number Who Mentioned	% of Q.14 Respondents (307)	% of All Landlords (977)
Exterior			
Sitework	24	7.8	2.5
Outside Walls	8	2.6	0.8
Roof	38	12.4	3.9
Chimney	2	0.7	0.2
Doors and Windows	27	8.8	2.8
Steps and Porches	14	4.6	1.4
Other Exterior	12	3.9	1.2
Interior			
Floors	9	2.9	0.9
Walls	5	1.6	0.5
Room Conversions*	10	3.3	1.0
Drywall/Plater	7	2.3	0.7
Wall Surfaces	32	10.4	3.3
Carpeting	15	4.9	1.5
Other Interior	7	2.3	0.7
Mechanical Systems			
Electrical	16	5.2	1.6
Furnace/Cooling Unit	18	5.9	1.8
Fireplace/Wood Stove	0	0.0	0.0
Ductwork	2	0.7	0.2
Plumbing	29	9.4	3.0
Insulation	19	6.2	1.9
Other Mechanical	0	0.0	0.0
Other	13	4.2	1.3
Totals	781	100.1	31.2

* Room conversion includes 3 bathrooms and 5 kitchens.